AMERICAN WOOD WORKING MACHINERY COMPANY

NEW YORK: 139 Liberty Street
SALESROOMS: CHICAGO, 43-45 S. Canal Street
NEW ORLEANS: Hennen Building

1904

CATALOGUE

AMERICAN WOOD WORKING MACHINERY COMPANY

Successor to

F. H. CLEMENT CO.
GLEN COVE MACHINE CO.
HOYT & BRO. CO.
THE LEVI HOUSTON CO.
GLOBE MACHINE CO.
C. B. ROGERS & CO.
ROWLEY & HERMANCE CO.
WILLIAMSPORT MCH. CO.
YOUNG BROS. CO.
LEHMAN MACHINE CO.
MILWAUKEE SANDER MFG. CO.

43.38
1334.88
1337.60
2715.86

SALESROOMS:

NEW YORK, ... 136 LIBERTY STREET
CHICAGO, ... 43-45 S. CANAL STREET
NEW ORLEANS, ... HENNEN BUILDING

Cable Address, "**Woodmacho,**" New York

1904

INTRODUCTORY.

THIS "Pocket Edition" of our 1904 catalogue is published in order to present our full line of machinery in as compact a manner as possible. To do full justice to each machine would require a book which would be very cumbersome to handle. We have on hand, at our various sales departments, large illustrated circulars giving complete descriptions, which we will gladly mail upon application.

We have recently issued our catalogue "B" of special Planing Mill machinery, and have under advisement catalogue "C" of Sash, Door and Blind machinery, and catalogue "D" of Furniture machinery.

It is our constant aim to produce the latest improved labor-saving machines, employing the most skilled mechanics, and using the best material; we guarantee them to be first class in every respect. The increased demand for our machinery has compelled us to enlarge our several factories and re-equip them with the latest tools and appliances, thereby enabling us to serve our patrons promptly.

AMERICAN WOOD WORKING MACHINERY CO.

TDCAT 1904
PAT V04 K149

Suggestions to Correspondents.

PLEASE BE KIND ENOUGH to acknowledge receipt of this Catalogue by postal card or letter. If in want of any machine herein illustrated, please mention it, and we will quote you price.

To avoid mistakes, give your post-office address in full; TOWN, COUNTY AND STATE.

In ordering extras, repairs, supplies, or changes in machines being built, give sufficient information to enable us to fill the order intelligently and correctly.

When sending anything to us, put your name and address on each package. Advise if we are to ship by express or freight.

GUESSWORK IS EXPENSIVE.

Orders thoughtlessly or carelessly made are often received with instructions to hurry the goods forward. To avoid delay we must GUESS what is wanted, and we may guess wrong; then comes the inevitable expense of express charges, delay and consequent vexations at both ends of the line.

We will send EXACTLY what you want if you will state your wants EXACTLY.

A Little Pencil Sketch often conveys more meaning than a page of written instructions.

Many of our machines have been sold through agents, and only the agents' names are known to us in the transaction, hence the necessity of the greatest care in ordering. When possible give the machine number as shown on brass plate.

A Careful Consideration of the foregoing will save time and correspondence, and enable us to fill orders promptly.

Claims for Errors must be made on receipt of goods. Our responsibility ceases upon delivery of shipment in good order to the Transportation Company, and in no case can we allow claims for damages or loss in transit. All claims *must* be made to the Transportation Company.

AMERICAN WOOD WORKING MACHINERY CO.

CABLE ADDRESS, "WOODMACHO," NEW YORK.

TELEGRAPH CODE

In addition to this private code we use Lieber's, A B C (4th and 5th Edition) and Western Union.

TABLE OF DATES

CODE WORD	DAY	CODE WORD	DAY
Abaca	1st	**Abidah**	17th
Abacus	2d	**Abidest**	18th
Abadal	3d	**Abimer**	19th
Abate	4th	**Abirato**	20th
Abatis	5th	**Ablage**	21st
Abature	6th	**Ablama**	22d
Abbotto	7th	**Ablant**	23d
Abboza	8th	**Ablatos**	24th
Abdig	9th	**Ablave**	25th
Abdolo	10th	**Ablecto**	26th
Abdone	11th	**Ablort**	27th
Abdot	12th	**Abnadel**	28th
Abdure	13th	**Abnado**	29th
Abeel	14th	**Abnaka**	30th
Aberate	15th	**Abnakist**	31st
Abestola	16th		

CODE WORD	MONTH	CODE WORD	MONTH
Jan	January	**Jul**	July
Feb	February	**Aug**	August
Mar	March	**Sep**	September
Ap	April	**Oct**	October
May	May	**Nov**	November
June	June	**Dec**	December

Add to the word representing the day, the letters representing the month, as shown above, thus: "Abdotmar" would translate, 12th of March; "Ablamasep" would translate, 22d of September.

FRACTIONS AND GENERAL FIGURES OR AMOUNTS

Which may be understood as Dollars, or otherwise, as the sense may require.

CODE WORD	
Abnalatic	$\frac{1}{64}$
Abnaligo	$\frac{1}{32}$
Abnalitus	$\frac{1}{16}$
Abnego	$\frac{1}{8}$
Abolin	$\frac{3}{16}$
Abolisco	$\frac{1}{4}$
Aboma	$\frac{5}{16}$
Abominant	$\frac{3}{8}$
Abonable	$\frac{7}{16}$
Aborg	$\frac{1}{2}$
Aborso	$\frac{9}{16}$
Aborud	$\frac{5}{8}$
Aboseto	$\frac{11}{16}$
Abostel	$\frac{3}{4}$
Abosting	$\frac{13}{16}$
Abostup	$\frac{7}{8}$
Abouch	$\frac{15}{16}$
Abrax	1
Abrin	$1\frac{1}{16}$
Abrito	$1\frac{1}{8}$
Abrivet	$1\frac{3}{16}$
Abroca	$1\frac{1}{4}$
Abrocug	$1\frac{5}{16}$
Abrocute	$1\frac{3}{8}$
Abrodare	$1\frac{7}{16}$
Abroding	$1\frac{1}{2}$
Abrogama	$1\frac{9}{16}$
Abrogant	$1\frac{5}{8}$
Abroger	$1\frac{11}{16}$

CODE WORD	
Abrogil	$1\frac{3}{4}$
Abroketa	$1\frac{13}{16}$
Abrokin	$1\frac{7}{8}$
Abrolad	$1\frac{15}{16}$
Abrolatic	2
Abroleta	3
Abroline	4
Abrolyte	5
Abrood	6
Abrotag	7
Abrotum	8
Abrulant	9
Abrule	10
Absalcum	11
Absalt	12
Absalvo	13
Abseno	14
Absentive	15
Absentug	16
Absilum	17
Absinded	18
Absint	19
Absintha	20
Absolating	21
Absolga	22
Absome	23
Absonte	24
Absoto	25
Abstado	26

FRACTIONS AND GENERAL FIGURES OR AMOUNTS—Continued.

CODE WORD	
Abstained	27
Abstem	28
Abstenant	29
Abthane	30
Abtilgen	31
Abtrollen	32
Abtsario	33
Abtung	34
Abucar	35
Abucole	36
Abugist	37
Abugo	38
Abusant	39
Abzug	40
Acabad	41
Acabino	42
Acadum	43
Acafatig	44
Acaldro	45
Acalticum	46
Acamo	47
Acantig	48
Acanto	49
Acantum	50
Acapalti	51
Acbotum	52
Accanala	53
Acclaimed	54
Acclamating	55
Acclavo	56
Acclinis	57
Accul	58
Acculant	59
Accultos	60
Accumoli	61
Acdillo	62
Acedano	63
Acedia	64
Acerer	65
Acervose	66
Achat	67
Acidinus	68
Acidonte	69
Acidorum	70
Aclamote	71
Aclasto	72
Acotero	73
Acquista	74
Acrotis	75
Acrupe	76
Actempo	77
Actif	78
Actingo	79
Acylos	80
Adaca	81
Adacilla	82
Adlocution	83
Adlumia	84
Admah	85
Admano	86
Admansit	87
Admonitive	88
Admonitory	89
Admordent	90
Adnexum	91
Adnicant	92

FRACTIONS AND GENERAL FIGURES OR AMOUNTS—Continued.

CODE WORD	
Adnicos	93
Adnisga	94
Adoquin	95
Adorably	96
Adorant	97
Adverbero	98
Advergit	99
Adverret	100
Adversant	105
Adversator	110
Afectaron	115
Afectivo	120
Afecto	125
Afeggen	130
Affenage	135
Afficit	140
Affodill	145
Affodio	150
Affronter	155
Affudero	160
Afgerand	165
Afgerot	170
Afield	175
Afilaba	180
Afilados	185
Aflosser	190
Aflossing	195
Aflow	200
Afragar	205
Afraking	210
Afrandig	215
Afranum	220
Afrapen	225

CODE WORD	
Agatham	230
Agathode	235
Agathopus	240
Agathosma	245
Aggavetta	250
Aggedule	255
Aggelare	260
Aggredio	265
Aggressive	270
Agitatrix	275
Agitava	280
Agnorum	285
Agnossent	290
Agnoste	295
Agoraba	300
Agoranis	305
Agripper	310
Agrisando	315
Agrupis	320
Agustite	325
Akkon	330
Akkub	335
Alamaro	340
Alambic	345
Alapis	350
Alariba	355
Alberos	360
Alberto	365
Alemonis	370
Alenbock	375
Alendos	380
Aletride	385
Aletrium	390

FRACTIONS AND GENERAL FIGURES OR AMOUNTS—Continued.

CODE WORD	
Alettra	395
Algenib	400
Algensem	405
Algensis	410
Algente	415
Algerent	420
Algerina	425
Algerot	430
Algunos	435
Alhabor	440
Alimus	445
Alinatro	450
Alindaba	455
Alindar	460
Alinego	465
Alkannas	470
Alkari	475
Alketash	480
Alkidas	485
Alkinoos	490
Alkman	495
Alkoof	500
Allampo	505
Allappa	510
Allibro	515
Allionis	520
Alliphis	525
Almquist	530
Almsgiving	535
Alphito	540
Alphitorum	545
Alphorn	550
Alpibus	555
Alpicola	560
Alpicos	565
Alpigene	570
Alpigno	575
Alpinam	580
Alpinery	585
Altalena	590
Altorum	600
Altozano	610
Altramuz	620
Alweder	630
Alwetend	640
Ambrassi	650
Amecant	660
Amechando	670
Amechtig	680
Amedano	690
Amedatha	700
Amedrento	710
Amenistra	720
Amenoplis	730
Amidole	740
Amidoso	750
Amidward	760
Ammelino	770
Ammendi	780
Ammorsa	790
Amoletis	800
Amorously	825
Amorphic	850
Amphion	875
Ampliant	900
Amplidao	925

FRACTIONS AND GENERAL FIGURES OR AMOUNTS—Continued.

CODE WORD	
Anchone	950
Anchorelle	975
Anchoretic	1000
Anchoring	1025
Andantino	1050
Andarese	1075
Andassimo	1100
Anecatum	1150
Anecdotal	1200
Anecdotier	1250
Anecio	1300
Anecte	1350
Anemogia	1400
Anemograph	1450
Anemology	1500
Anemonic	1550
Anemoon	1600
Anemoria	1650
Anginas	1700
Anginosoum	1800
Angiola	1900
Angionose	2000
Angustura	2250
Anharmonic	2500
Annalistic	2750
Annalizing	3000
Annamite	3250
Annascor	3500
Annasollo	3750

CODE WORD	
Annata	4000
Annotes	4500
Annovero	5000
Anteriorly	5500
Anternon	6000
Anteros	6500
Antheus	7000
Anthicide	7500
Anthimo	8000
Anthium	8500
Anthobie	9000
Antidoto	9500
Antifaz	10000
Antodone	11000
Antoil	12000
Antolita	13000
Apanares	14000
Apandan	15000
Apandara	16000
Apandillo	17000
Apertor	18000
Apertorium	19000
Apertovi	20000
Apesaro	21000
Apesas	22000
Aplesion	23000
Apodes	24000
Apodipno	25000

SHIPMENTS AND DELIVERIES

CODE WORD	
Aposta	Wire earliest possible shipment of ------
Apozela	How soon can you ship?
Apparu	Order depends upon delivery.
Appasco	Have you shipped?
Approbator	Can you ship at once?
Approbavi	Have you shipped our order number ------?
Apriculos	We can ship at once.
Apriza	Expect to ship ------
Apronkor	Will ship ------
Apsoverent	Can ship ------
Aptristum	Can ship in three days.
Apundare	Can ship in five days.
Arakimo	Can ship in one week.
Arakinz	Can ship in ten days.
Arapunas	Can ship in two weeks.
Arbeeza	Can ship in three weeks.
Arbogantum	Can ship in four weeks.
Arbolando	Can ship in five weeks.
Arbrogum	Can ship in six weeks.
Arcabo	Can ship in two months.
Arcion	Can ship in three months.
Arcovasum	Ship by steamer from ------
Arcovata	Ship by sailing vessel from ------
Arctinnus	Ship by steamer to ------
Arctodion	Ship by sailing vessel to ------
Arctunna	Ship by railroad at once.
Ardunas	Ship by boat at once.
Arequeto	Ship by express C. O. D.
Arevog	Shall we ship by steamer or sailing vessel?
Argannelli	Ship by express at once.
Argolico	Shall we ship by rail or boat?
Argolide	Ship by sailing vessel from New York.
Argomal	Ship by steamer from New York.
Argomento	Ship by cheapest route.

SHIPMENTS AND DELIVERIES—Continued.

CODE WORD	
Argonaut	Ship by railroad if not too great a difference in cost.
Aribistu	Ship by fast freight.
Aribunt	Ship by steamer and insure.
Aridorsu	Ship as soon as possible.
Armadig	Ship immediately.
Armadino	Ship immediately, without waiting for carload.
Armagas	Ship in carload.
Armagillo	When will next car for ------?
Armoge	Will ------ be shipped in car to start ------
Armolas	Ship in car for ------
Armonio	Ship in first car for ------
Arnebo	When and by what route did you ship?
Arondank	Will a few days' delay in shipment make any difference?
Arotemp	A few days' delay in shipment will make no difference.
Arpagerunt	We have nearly finished and can ship ------
Arpellone	None in stock, but can ship in ------
Arrabetta	Reply by telegraph when you can ship.
Arrebano	When will you ship?
Arrebol	We ship to-day.
Arrecato	Ship what you have ready, letting balance follow.
Arrumbo	Goods were shipped.
Arteson	If you can ship at once, do so.
Artezza	We have shipped your order of ------
Arthedon	We have not shipped.
Articulpo	If you ship ------
Artificio	Ship and draw with bill of lading attached.
Artigaba	Can you ship and get through bill of lading?
Artigamos	Will ship as soon as possible.
Artigando	Prepare to ship, but await further instructions by mail.
Artiger	If you have not shipped, await further advice.

SHIPMENTS AND DELIVERIES—Continued.

CODE WORD	
Artiglio	------ goods are ready to ship, and we await further instructions.
Artotis	We have ready for shipment ------
Aruback	Shall we ship?
Arugant	Hurry shipment as much as possible.
Arzolla	Customer will cancel, if not shipped at once, our order number ------
Arzon	Customer will cancel, if not shipped in three days, our order number ------
Arzudit	Customer will cancel, if not shipped in one week, our order number ------
Arzussi	If you have not shipped ------
Asbestus	Will be shipped this week.
Asekeg	Can ship part of your order as follows, balance soon as possible.
Aserdal	Will be shipped next week.
Aserfone	When ready to ship, telegraph us.
Asergamp	Shipment can be made by ------
Asotig	Send shipping directions.
Assagela	Shipment delayed by ------
Assaveta	Carload.
Assomar	In one shipment.
Assombrate	Do not ship.
Assorgo	If you have not shipped ------ will send from here; answer.
Assurgency	Have sold for immediate delivery ------
Asterlate	Have sold for shipment in one week ------
Asulin	Have sold for shipment in two weeks ------
Asuntlig	How soon can I promise delivery of ------?
Atadron	Can we use for ------?
Atafaca	Wire earliest possible shipment of carload.
Athalia	Will ship our order ------
Athanis	Can ship immediately by taking from ------
Atlanzio	Can secure order for ------ if you can include in car to start.

SHIPMENTS AND DELIVERIES—Continued.

CODE WORD	
Atomic	Will lose order unless we can deliver in ------
Atrana	Prepare to ship immediately upon receipt of instructions from New York.
Atrapar	Send to ------ for shipment with their goods.
Atrode	Hold shipment of goods from ------
Atticebo	Prompt delivery is important.
Attidaxo	Mail bill of lading, with rate and weight inserted, to ------
Attidomial	Ship to our order, mark bill lading. Notify on arrival.
Attifobis	Filling orders ahead, how soon can you ship -----?
Attifuga	Cancel instructions to hold and ship ------

INSURANCE

CODE WORD	
Attigo	Shall we insure?
Attisola	Do not insure.
Attosco	You may insure.
Attractis	Insure and let charges follow.

FREIGHT RATES, WEIGHTS, MEASUREMENTS AND HORSE POWER

CODE WORD	
Attune	What is the best rate of freight you can obtain from your place to _____?
Audaf	Rate of freight per 100 pounds, in carload lots, from _____ to _____ is _____
Audanner	Rate of freight per 100 pounds, in carload lots, released, from _____ to _____ is _____
Audetser	Rate of freight per 100 pounds, in less than carload lots, from _____ to _____ is _____
Audger	Rate of freight per 100 pounds, in less than carload lots, released from _____ to _____ is _____
Aufbizen	Cubic feet _____
Augesum	Wire approximate net shipping weight for _____
Augurist	What is cubic feet and weight of _____?
Aumacone	Shipping weight is _____
Auscite	What is shipping weight of _____?
Ausgig	What is approximate gross weight?
Ausodis	What is approximate gross weight of _____?
Ausotic	What is net weight of _____?
Austato	What is net and gross weight of _____?
Austerbo	What horse power is required for _____?
Austigen	_____horse power is required to drive to full capacity.

PRICES AND QUOTATIONS

CODE WORD	
Austrig	What is the lowest net cash price for ------ ?
Austringer	What is the lowest net cash price delivered here on ------ ?
Austrinta	The lowest net cash price on ------ is ------
Austroma	Wire lowest net cash price to us delivered here on ------ ?
Autalancot	Is price net, or list subject to discount?
Autameba	Price quoted you is net to us, F. O. B. cars at ------
Autarch	We quoted ------
Autillis	Price quoted you is net to us, F. O. B. at New York City.
Autogram	We did not quote.
Automne	Price quoted is net cash, boxed for export and delivered on cars at New York City.
Automolite	Price quoted is net cash, boxed for export and delivered at vessel side, New York City.
Automucan	What did you quote?
Autonomist	Telegraph price on ------
Autonomo	Telegraph lowest price on ------
Autopagastum	Your price is too high.
Autopathic	Please quote price to ------
Autopgazo	Wire best rate obtainable from ------ to ------
Autophoby	------ wires for price and delivery on ------
Autophon	Best net price I can obtain is ------

SALES

CODE WORD	
Autoplasm	Have burned out.
Autoplect	Have burned out, will rebuild.
Autoplexam	Have quoted no prices.
Autopling	Have quoted regular discount.
Autoplicht	Want planing mill outfit.
Autoploga	Have you called on ------
Autoplume	Get in touch with them.
Autoptic	Sell at price that will net us not less than ------
Autoribet	Do not sell unless you can get our price.
Autorimus	Sell at price you name, if you cannot do better.
Autoris	You may sell at ------
Autparcetra	Sell at your discretion.
Autre	Do not sell for less than ------
Autrium	Cannot sell at ------
Autrugist	Cannot sell at price you name, but can get ------
Autrustia	Cannot sell at over ------
Autunca	Have you sold?
Auvonta	Have sold.
Auxesis	Have not sold.
Auxfetch	Have sold and wish you to replace ------
Auxiliate	If you have not sold.
Auxospore	All in the works are sold.
Auxtonic	Will accept. Have written.
Auzcarpoon	Will not accept. Have written.
Auzplidos	Cannot accept. Have written.

PAYMENTS, REFERENCES, ETC.

CODE WORD	
Auzuber	Have you remitted by mail?
Ava	Have remitted by mail.
Avagol	Will remit at once.
Avahis	Draw at sight.
Avalo	Draw at sight, bill of lading attached. [attached.
Avaneh	Have drawn at three days' sight, bill of lading
Avania	Draw on us at _____
Avanturin	Have drawn on you at sight.
Avastile	Have drawn on you as usual. [attached.
Avauntig	Have drawn on you at sight, with bill of lading
Avell	How shall we draw?
Avelna	Have remitted through _____
Avender	Shall we draw at sight?
Avendol	Will draw on you as per proposition.
Avendome	Shall we draw on you?
Avenig	How much shall we draw for?
Avens	Have you drawn?
Aver	How have you drawn?
Averano	How much did you draw for? [invoice?
Averdel	Will you favor us with check in settlement of
Avernal	Have you remitted? [balance?
Averted	Will you favor us with check in settlement of
Avestan	Remit without delay.
Avian	Have placed credit for _____ dollars with _____
Avid	You may open credit in our favor with New York bank for _____
Avidity	Have opened bank credit in your favor with _____
Avidya	Have mailed you bankers' draft on New York for _____, draw at sight against bill of lading for balance.
Avieta	We refer to _____
Avigator	We refer to _____ New York.
Avinca	Buy for me (or on our account) and hold for shipping instructions, as follows _____

TERMS AND DISCOUNTS

CODE WORD	
Aviniga	What are your terms?
Avinum	Net cash with order.
Avishnu	One-half with order, balance on shipment.
Avisigoth	One-third with order, balance on shipment.
Aviso	One-third with order, draft at sight against bill of lading for balance.
Avitanum	Draw at sight against bill of lading.
Avitodet	Notes with interest.
Avocaris	Notes with interest secured by contract and insurance.
Avocat	Notes with interest secured by chattel mortgage.
Avolant	Notes with interest secured by good endorser.
Avoli	We will allow you a discount of ____
Avolisha	We will allow you an extra discount of ____
Avoset	Cannot make discount.
Avowtry	Cannot make an extra discount.
Avuln	Cannot make discount greater than ____
Avulse	Can you make discount?
Awabi	Can you make an extra discount?
Awaited	What discount will you make us on ____?
Awaldo	1 per cent.
Awalm	2 per cent.
Awanet	2½ per cent.
Awarblag	3 per cent.
Awarn	5 per cent.
Awaste	10 per cent.
Awbasu	15 per cent.
Awbazorn	20 per cent.
Awbordo	20 and 5 per cent.
Awdalum	25 per cent.
Awdasker	25 and 5 per cent.
Awdibando	25 and 10 per cent.
Awdicas	30 per cent.
Awdigeb	30 and 5 per cent.

TERMS AND DISCOUNTS—Continued.

CODE WORD	
Awdigipa	30 and 10 per cent.
Awdigul	33⅓ per cent.
Awdijaco	35 per cent.
Awdim	35 and 5 per cent.
Awdiment	35 and 10 per cent.
Awdiminar	40 per cent.
Awdimung	40 and 5 per cent.
Awdimutom	40 and 10 per cent.
Awdningo	45 per cent.
Awdnote	50 per cent.
Awdpaola	50 and 5 per cent.
Awdpodro	50 and 10 per cent.
Awdulano	55 per cent.
Awdulanson	60 per cent.
Awfendo	60 and 5 per cent.
Awferno	60 and 10 per cent.
Awfugo	70 per cent.
Awhendor	70 and 5 per cent.
Awhero	70 and 10 per cent.
Awhir	75 per cent.
Awhisk	75 and 5 per cent.
Awink	75 and 10 per cent.
Awk	80 per cent.

TRACER

CODE WORD	
Awkly	Goods not received. Send tracer.
Awkness	Follow with tracer.
Awlankava	Will send tracer immediately.
Awluchat	We have sent tracer.
Awlugunt	Send tracer after.
Awlusano	Trace by wire.

GENERAL INSTRUCTIONS

CODE WORD	
Awltrossi	We will forward drawings and specifications.
Awm	We have forwarded drawings and specifications.
Awmolantum	Can you substitute?
Awoke	Can we substitute?
Awormil	Can you substitute _____ for _____?
Awpantis	You can substitute.
Awsone	Can you construct _____ with _____?
Awsug	Can you change _____?
Awtorto	Will Sunday at _____?
Awyla	What shall we do?
Awyper	What shall I do?
Axaguntur	Follow up carefully.
Axanthic	Look into the matter at once.
Axcloze	Act quickly, but be judicious.
Axcornum	Use caution regarding credit.
Axeno	Find out, if possible.
Axeroma	As soon as _____
Axforlo	As soon as you can.
Axfurma	As soon as we can.
Axfuto	As soon as you get through at _____
Axgeluis	If nothing important in view, take train for _____
Axgelunt	Waiting to see you.
Axgeschlamm	See them at once.
Axgesonnen	Wire them immediately.
Axgracco	Have work here for to-day.
Axgyral	Must call on _____
Axgyre	Must return to _____
Axharle	Will leave to-night for _____
Axherit	Will leave to-morrow for _____
Axhyson	Will leave here immediately for _____
Axifugal	Will leave immediately for _____ and return here.
Axigid	Will leave for _____
Axillar	Will be at _____

GENERAL INSTRUCTIONS—Continued.

CODE WORD	
Axin	Will Sunday here ------
Axinca	Will be here ------
Axizar	Arrived here this morning ------
Axjadite	Arrived here this evening.
Axjail	Arrived here last night.
Axjann	Go at once to ------
Axjow	Call as soon as possible on ------
Axjube	Ask price on ------ machines.
Axkerlo	------ is in the market for ------ rated high.
Axkinto	------ is in the market for ------ rated fair.
Axkudos	------ is in the market for ------ rated low.
Axkumquat	------ is in the market for ------ not rated.
Axluth	Will get special rating.
Axmailine	Will we get special rating?
Axman	Come home at once.
Axmarso	On your way home stop at ------
Axmasta	Will be home ------
Axmbosinate	Come home, stopping on your way at ------
Axmicum	Stopping at important points, go at once to ------
Axnepa	Telegraph when you leave.
Axneroli	Send us your route and hotel list at once.
Axnodal	See route mailed.
Axofant	Will send route from ------
Axoid	Will mail route immediately.
Axoidum	You will find letter or telegram of instructions at ------
Axonost	Am holding party until I can get reply. Reply by telegraph immediately.
Axpaff	------ by taking from ------
Axpatina	Wrote you yesterday.
Axpayot	Can Eastern expert attend to starting ------?
Axpersic	Can your expert visit ------?
Axpesasta	Shall we send our expert to ------?
Axphasum	------ are ready to start Sander, send expert.

GENERAL INSTRUCTIONS—Continued.

CODE WORD	
Axpinta	Our expert has been instructed to visit ------
Axplanzo	Have your expert, when in the neighborhood, call on ------
Axprant	If we substitute machine intended for ------
Axputta	Can we use for ------
Axrano	Wire instructions.
Axronco	Where can we reach you by letter?
Axrosar	Please send instructions.
Axrugga	Wire full descriptions and condition of ------
Axseed	Sent you letter to-day to ------
Axsonic	Sent you important letter to-day.
Axtasto	Sent you important letter on ------ to ------
Axtazza	Get our telegram at ------
Axtelvo	Get to-day's letter.
Axtewan	Get to-day's letter before calling on ------
Axthronal	Get our letter at ------
Axtifole	Did you get mail at hotel ------ ?
Axtillas	Did you get mail at General Delivery ------ ?
Axtonga	Get letter of instructions there.
Axturacu	Shall I wait for letter and instructions?
Axturafuse	Where did you send it?
Axturba	Will wait for instructions at ------
Axturbang	Have mail forwarded from ------
Axturbeda	Will get letter there.
Axturndo	Waiting your reply to our telegram.
Axudone	Please reply at once by telegram to ours of ------
Axunge	Please reply at once to ours of ------
Ayabbi	In reply to your letter of ------
Ayaffa	In reply to your telegram of ------
Ayaksha	Referring to your telegram of ------
Ayama	Referring to our telegram of ------
Ayampic	Must have definite reply.
Ayang	Reply by telegraph immediately.
Ayapok	Reply by mail immediately.

GENERAL INSTRUCTIONS—Continued.

CODE WORD	
Ayarke	Reply fully by mail immediately.
Ayashmak	Immediate reply necessary.
Ayeld	Did you receive our letter of ——?
Ayelpen	Have not received letter referred to ——
Ayen	Have not received your telegram referred to ——
Ayenza	Did you receive our telegram of ——?
Ayerga	Have received your letter referred to.
Ayergant	Have received your telegram referred to ——
Ayergos	If you have not ——
Ayetapa	Do not hold.
Ayoga	What is the amount?
Ayok	Your letter came to hand to-day.
Ayont	Our letter explains everything.
Ayowl	Have received your telegram of ——
Ayulan	Your telegram did not reach us in time.
Ayunta	Your telegram is unintelligible; repeat it.
Ayursad	Your letter is unintelligible; repeat it.
Ayutambo	We mail you letter to-day, confirming this telegram.
Ayutanco	Owing to train connections, will ——
Ayutatic	Await letter of this date.
Ayutsan	Waiting your further instructions.
Azabian	Full instructions have been sent.
Azale	Shall we enter your order?
Azambo	If ordered at once.
Azan	Wait further orders.
Azarin	Cancel our order of ——
Azarole	Instructions to cancel arrived too late.
Azbesuma	We have order(s) on our books for ——
Azbreula	We advise you to send in the order immediately.
Azcades	If ordered immediately.
Azcordor	Wire orders.
Azdytic	Contract to be closed.
Azebuder	You can wire order at our expense.
Azelaic	Have you on hand?

GENERAL INSTRUCTIONS—Continued.

CODE WORD	
Azfilarno	Have none on hand.
Azfincento	Competition is strong.
Azfirmatum	If you cannot sell at our limit, telegraph best price you can get.
Azfordit	Can you get cash at these prices?
Azfornum	Take the order.
Azfoscog	Have sold for immediate delivery.
Azfrostrum	Have sold for cash.
Azfuderog	Will you accept?
Azgelardo	Shall I accept?
Azgorso	We will accept.
Azgub	Send draft account traveling expenses to ------
Azguelf	Send draft for ------ dollars account salary to ------
Azgugal	Have sent draft for ------ dollars to ------
Azguntum	In accordance with your instructions.
Azika	In accordance with our instructions.
Azimuth	On receipt of our letter ------
Azmbliget	Will make with extra charge.
Azmocantis	Will make for ------ extra.
Azmolentia	Our list price is ------
Azmorastig	How soon can you furnish?
Azmorgant	Our list price for ------ is ------
Azmufando	We will furnish ------
Azmyza	Will this answer?
Aznagga	Is it satisfactory?
Azneo	It is satisfactory.
Azo	Nothing important.
Azoic	Cannot locate ------ at ------
Azonic	Give better address.
Azoth	It is not satisfactory.
Azpadris	If satisfactory.
Azpatuso	Where can we reach you by letter?
Azpentus	Ignore telegram of ------
Azpisonore	Proceed on route.

GENERAL INSTRUCTIONS—Continued.

CODE WORD	
Azplica	Ignore letter of instructions of ------
Azpnebas	If not over.
Azpodesel	Write particulars.
Azponanzo	Do not trade.
Azpriza	Will not trade.
Azrain	Do not quote them.
Azrona	Everything as usual.
Azsembank	We will wire.
Azsolatum	Wire parties using ------ here.
Aztikum	Wire parties using ------ at ------
Aztoltec	Prepay freight to ------
Azucon	Prepay freight to New York.
Azverlos	Prepay freight to Boston.
Azverto	Prepay freight to Chicago.
Azzelot	Prepay the freight.
Azzenhast	Use machine at store for ------
Azzohar	Use ------ at store for ------
Azzoism	Do you work matcher heads, tongue or groove to guide?
Azzokor	Groove to guide.
Azzonate	Tongue to guide.

When ordering by mail, always designate machine by figure number and title. When ordering by telegraph, the use of the code words is all that is necessary.

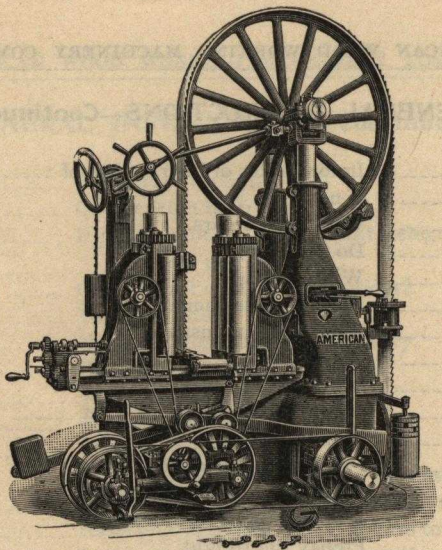


Fig. **500** Clement 60″ Band Re-saw.

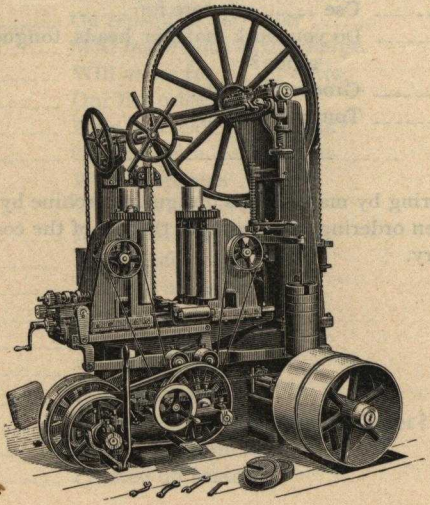


Fig. **501** Clement 54″ Band Re-saw,

F. H. CLEMENT CO.'S

60″ BAND RE-SAW.

Adapted to heavy and medium re-sawing at high speeds of feed. Lower wheel has solid web, and weighs about one ton. Shafts are hammered crucible steel, 4½″ and 4″ diam. respectively; wheels are accurately finished on their own journals. Main boxes support the shafts on both sides of the wheels, and are self-oiling with positive circulation. Feed is adjustable as 8 is to 1, and can be 125 feet per minute or more if ordered.

Guides have hardened rear safety rolls and bronze side plates, all adjustable. The six feed rolls are all geared, and may be set for self-centering or slabbing at will. Teeth of blade run within 1″ of center of the last rolls; the entire roll table can be tilted to saw clapboards.

Capacity, 36″ vertically and from ⅛″ to 24″ horizontally; splits to center of 24″, and slabs from 12″. Blades are 8″ wide, 30′ 3″ long, and from No. 19 to No. 22 gauge. We furnish one blade ready for use, usually No. 19 gauge; also floor plan and directions. Main pulley is 30″ x 12½″; speed, 500. Floor space, 6′ 3″ x 9′ 3″ x 11′ high.

			Boxed for Export		
Fig.	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
500	20 to 30	12,000	16,000	400	**Bacillary**

F. H. CLEMENT CO.'S

54″ BAND RE-SAW.

Adapted for general work in planing mills, cabinet, carriage, box and jobbing shops, in hard or soft wood. Lower wheel has solid web, and the strain line of the blade lies within the bearings on both wheels. Wheels are accurately turned on their own journals. Main shaft is of hammered crucible steel, 3½″ diameter, and the boxes are self-oiling with positive circulation. All six feed rolls are geared, and the teeth of the blade run within 1″ of the center line of the last rolls. They can be tilted to saw clapboards, and set to self-center or to slab off, as required. Speed is adjustable as 8 is to 1, and may be as high as 120 feet per minute. Guides have hardened rear safety rolls and bronze side plates all adjustable. General adjustments are quickly made by the operator at his post.

Capacity, 30″ vertically, and from ⅛″ to 20″ horizontally; 16″ can be split in the center and a veneer cut from 12″ wide. Blades are 6″ wide and 26′ 10″ long, and from No. 18 to No. 22 gauge. We furnish one blade ready for use, usually No. 19 gauge; also floor plan and directions.

T. & L. (self-oiling) pulleys, 24″ x 8½″; speed, 550. Floor space, 8′ 6″ x 5′ 3″ x 9′ 8″ high.

			Boxed for Export		
Fig.	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
501	15 to 20	7,200	10,200	306	**Bacilus**

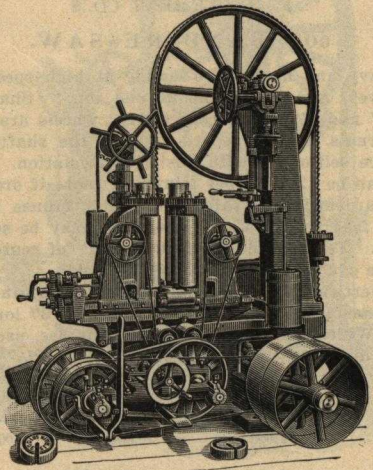


Fig. **502** Clement 48″ Band Re-saw.

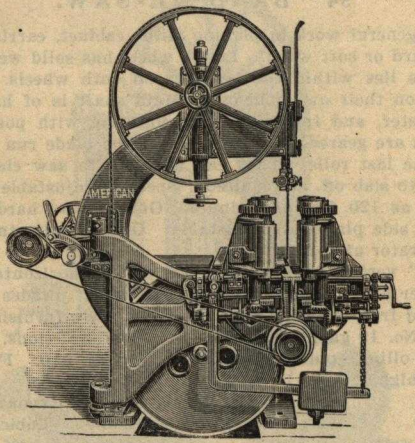


Fig. **503** Williamsport No. 4, 40″ Band Re-saw.

F. H. CLEMENT CO.'S

48″ BAND RE-SAW.

A medium machine for sash and door, furniture, carriage box and jobbing shops. Lower wheel has solid central web, and the strain line of the blade lies within the bearings on both wheels. Wheels are carefully finished on their own journals. Main shaft is of hammered crucible steel, 3″ diameter. Boxes are self-oiling with positive circulation. All six feed rolls are geared, and teeth of blade run within 1″ of center of last roll. Rolls may be set for self-centering or slabbing, and can be tilted to saw clapboards. Speed is adjustable as 8 is to 1, and may be 100 feet per minute if ordered. Guides are hardened steel rolls and bronze plates, all adjustable. General adjustments are quickly made by the operator at his post.

Capacity, 26″ vertically, and from ⅛″ to 15″ horizontally; 12″ can be split in the center and a veneer cut from 9″. Blades are 4″ wide and 24′ 8″ long, and from No. 19 to No. 22 gauge. We furnish one blade ready for use, usually No. 19 gauge; also floor plan and directions.

T. & L. (self-oiling) pulleys, 22″ x 7½″; speed, 600. Floor space, 5′ x 8′ x 9′ high.

			Boxed for Export		
Fig.	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
502	12 to 15	6,000	8,100	232	**Bacinella**

WILLIAMSPORT MACHINE CO.'S

No. 4, 40″ BAND RE-SAW.

This is a substantial, strong and rigid machine. The frame is cast in one piece, shafts are all steel, extra heavy, and pulleys of the proper size to give sufficient belt power.

The Table is iron, 34″ x 42″, and is fitted with a guide for ripping. The table can be tilted if desired. We put an antifriction patent roller guide both above and below the table on this machine.

The Feed is strong and reliable, both sets of rolls being driven. These rolls will tip for sawing bevel siding, and are placed as close to the saw as it is possible to run them. They are self-centering, or one side can be made rigid. The change is made by loosening one bolt and tightening another.

Three changes of feed are provided—20, 30 and 42 feet per minute. The re-sawing attachment is on a swinging arm, and by loosening but one clamp bolt the feed works can be swung around out of the way and the table slid up to its place, arranging the machine for plain or scroll work.

Wheels are 40″ diameter, 2½″ face. Upper wheel has iron center and spokes, with wood rim. Lower wheel has solid web. Upper and lower shafts run in boxes.

Capacity-stock up to 20″ thick will pass under the upper guide and to 6″ thick between the rolls. Saws as wide as 2½″, 21′ 9″ long, can be used on the machine. With each machine we send one saw each, 2½″ wide and ½″ wide, ripping gauge for hand work, brazing clamp and tongs, belt shifter and full set of wrenches.

T. & L. (self-oiling) pulleys, 18″ x 6″; speed, 600. Floor space, 7′ x 6′ x 9′ high.

			Boxed for Export		
Fig.	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
503	4 to 8	3,500	4,220	145	**Backam**

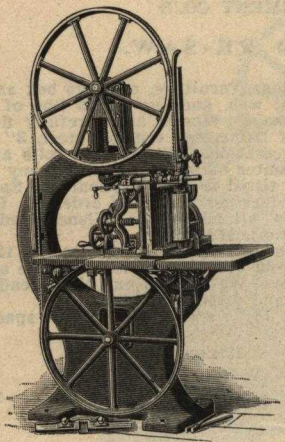


Fig. **505** Clement 38″ Band Re-saw.

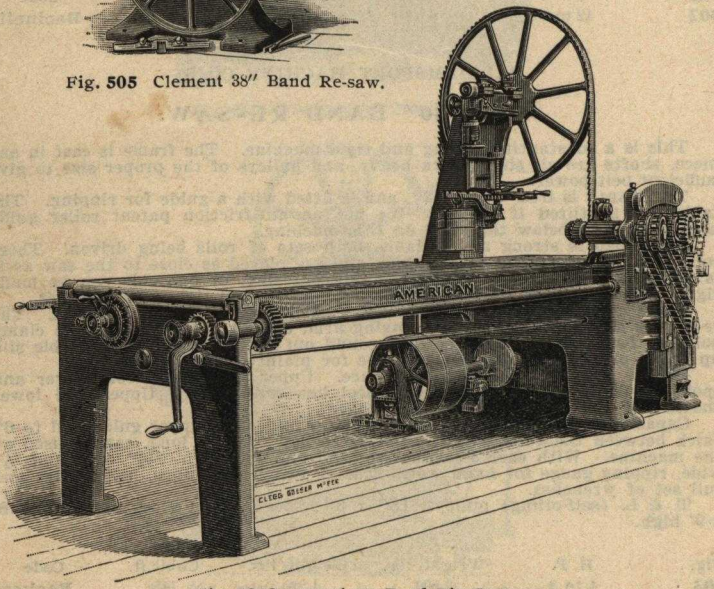


Fig. **5052** American Band Rip Saw.

F. H. CLEMENT CO.'S

38″ BAND RE-SAW.

A combination for general sawing in furniture, carriage, carpenter, box, sash, door and jobbing shops. Frame is cast hollow in one piece. Table is iron, 36″ x 36″, and tilts for bevel sawing. Shafts of steel; lower wheel is heavy and the upper one is light, with hard wood rim of veneers. "Mohawk Dutchman" Guide is used. Upper shaft runs in double boxes, and all boxes are divided to take up wear and adjustable for alignment. Feed works for re-sawing are driven by steel worm and brass worm wheel. The attachment can be removed from the machine by simply loosening two bolts, leaving the machine for ordinary band sawing.

Capacity, 16″ vertically and 37″ horizontally, without re-saw attachment. The re-saw attachment will take stock up to 12″ wide, 3″ thick. Machine is furnished with one ½″ blade for scroll and one 2″ blade for re-sawing; length, 20′ 2″; brazing appliances and wrenches are included.

T. & L. (self-oiling) pulleys, 16″ x 4¼″; speed, 450. Floor space, 4′ x 5′ 6″ x 8′ 4″ high.

			Boxed for Export		
Fig.	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
505	2 to 4	1,900	2,400	84	**Backworm**

AMERICAN

POWER FEED BAND RIP SAW.

The Frame is cast hollow, with cross struts and heavy foot flanges. The upper wheel shaft is 2″ and the lower wheel shaft is 2 3-16″ diameter, and run in long bearings, which have automatic oil cells and return channels. The wheels are 42″ diameter and are both "dished," so as to extend over the boxes, thereby bringing the strain of the blade directly on the bearings. The lower wheel is very heavy, with a solid center web. The upper one is as light as possible, consistent with strength. There are two driven feed rolls 5″ diameter, 15″ long. They may be raised to rip stock up to 12″ thick. There are also two large idler rolls in the table. The feed rolls are driven by our new variable feed, which gives double the power of the ordinary friction variable feed, without any end thrust to any of the shafts. The feed varies from 60 to 120 lineal feet per minute. The adjustment of the ripping gauge is shown on the dial, and is from 0 to 15″ to the right of the saw on machine with front extension. When the front extension is not used the ripping gauge may be placed on left hand side of saw, and then the gauge may be set to rip 24″ wide. The table is 42″ wide, 38″ long. Distance in the clear from saw to left hand side, 26″. The straining of the blade is accomplished by a balance lever with weights. The guide has a hardened steel roller and independent side guides. One blade supplied with each machine, 3½″ wide, 21′ 5½″ long. T. & L. (self-oiling) pulleys, 18″ x 6″; speed, 650; H. P., 10 to 12.

				Boxed for Export		
Fig.	Style	Floor Space		Weight, lbs.	Weight, lbs.	Cubic ft.	Code
5052	With extension	6′ x 11′ x 8′	high.	4,000	5,300	220	**Baclabist**
5053	Without extension	6′ x 6′ x 8′	"	3,600	4,500	175	**Bacladum**

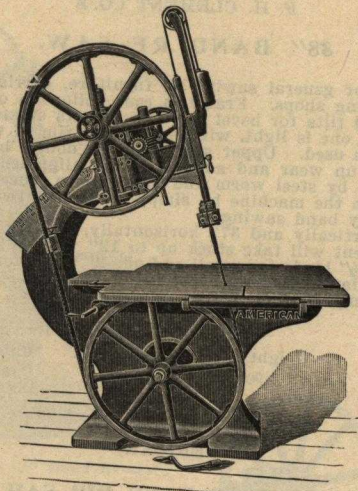


Fig. **506** Williamsport 40″ Bevel Band Saw.

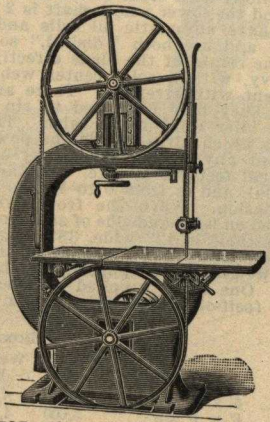


Fig. **507** Clement 42″ Scroll Band Saw.

WILLIAMSPORT MACHINE CO.'S

40" BEVEL BAND SAW.

This machine is intended for all classes of band sawing where heavy stock is to be sawed beveling, and is adapted to ship and boat building, car shops, etc. Main frame is heavy and rigid, having cored sections, and is cast in one piece. Wheels are 40" in diameter, 2½" face. The lower wheel is of iron, while the upper one has hard wood rim. The top wheel can be adjusted to saw from square to an angle of 45 degrees, either by means of the crank shown at base of machine or by hand wheel at opposite side; and both top and bottom wheels are adjustable for tracking saw on wheels. The upper guide is fitted with steel roller for back of saw to run against, and has hard maple guides to run against face of saw. Table is iron, 4' 6" wide x 4' long, provided with iron roller at front and rear for relieving friction on table when sawing heavy stock. Adjustable iron plates are fitted into the table to close opening when saw is adjusted. The shafts are very heavy, and run in long bearings, and the lower shaft is provided with bearings outside of the tight and loose pulleys. Machine will receive lumber up to 17" thick, 40" from saw to frame; will carry saws up to 2½" wide by 20' 10" long. We furnish one 2½" blade, brazing appliances and wrenches. T. & L. (self-oiling) pulleys, 18" x 6"; speed, 600. Floor space, 6' x 3' x 7' 10" high.

			Boxed for Export		
Fig.	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
506	4 to 8	2,900	3,700	125	Baclage

F. H. CLEMENT CO.'S

42" SCROLL BAND SAW.

Adapted specially for the heavier grades of scroll sawing, but is equally practical for light work, using blades 3-16" wide and upward. Frame is cast hollow in one piece. Table, 40" x 42", of wood or iron; tilts for bevel sawing; shafts are of steel; lower wheel is of iron and heavy, and upper one is as light as practicable, with rim of hard wood veneers. "Mohawk Dutchman" Guide is used, and the guide spindle is of square section steel. Main boxes are adjustable for alignment and divided to take up wear. Upper shaft runs in a double box; re-sawing gauge can be furnished if ordered extra.

Capacity, 20" vertically, 42" horizontally.

One ½" blade. 22' 8" long, brazing appliances and wrenches are included.

T. & L. (self-oiling) pulleys, 18" x 5¼"; speed, 400. Floor space, 4' x 5' x 8' 4" high.

				Boxed for Export		
Fig.		H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
507	Iron Table	3 to 4	2,200	2,800	106	Bacler
508	Wood Table	"	2,000	2,600	106	Baclons
509	Hand Splitting Gauge and Roll, extra					Bacolo

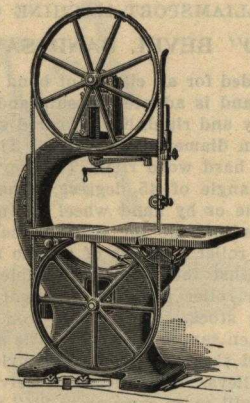


Fig. **510** Clement 38″ Band Saw.

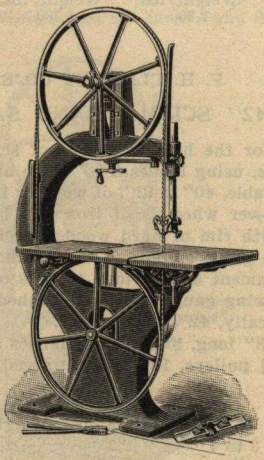


Fig. **514** Clement 36″ Band Saw.

F. H. CLEMENT CO.'S

38″ BAND SAW.

A favorite size with many users, because of its adaptability to the range of work in any wood shop. Frame is cast hollow in one piece. Table, 36″ x 36″, of wood or iron; tilts for bevel sawing; shafts are of steel; lower wheel is heavy and upper one is light, with hard wood rim of veneers. "Mohawk Dutchman" Guide is used. Upper shaft runs in a double box, and all boxes are divided to take up wear and adjustable for alignment. Hand splitting gauge and pressure roll can be attached as an extra.

Capacity, 16″ vertically and 37″ horizontally.

One ½″ blade, 20′ 2″ long; brazing appliances and wrenches are included. T. & L. (self-oiling) pulleys, 16″ x 4¼″; speed, 450. Floor space, 4′ x 5′ 6″ x 8′ 4″ high.

				Boxed for Export		
Fig.		H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
510	Iron Table----	2 to 4	1,600	2,100	84	**Bafordo**
511	Wood " ----	"	1,400	1,900	84	**Bagacum**
512	Hand Splitting Gauge and Roller, extra----------					**Balistic**

F. H. CLEMENT CO.'S

36″ BAND SAW.

The most popular size that we make, and is well adapted to general scroll sawing in hard or soft wood. Frame is cast hollow in one piece. Table, 32″ x 32″, of wood or iron; tilts to an angle of 45 degrees for bevel sawing; shafts are of steel; lower wheel is of iron, and upper one has hard wood rim glued up of kiln dried veneers. "Mohawk Dutchman" Guide is used. Upper shaft runs in a double box, and all boxes are divided to take up wear, and are adjustable for alignment. Patent elastic weighing strain lever is provided, as in all our scroll band saws.

Capacity, 14″ vertically and 36″ horizontally.

One ½″ blade, 19′ 3″ long; brazing appliances and wrenches are included. T. & L. (self-oiling) pulleys, 14″ x 4½″; speed, 400. Floor space, 3′ 6″ x 5′ 2″ x 8′ 3″ high.

				Boxed for Export		
Fig.		H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
514	Iron Table----	2 to 3	1,300	1,900	75	**Baltzar**
515	Wood " ----	"	1,200	1,800	75	**Baptismum**

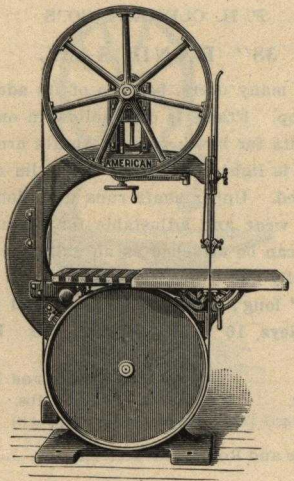


Fig. **5141** 36″ Clement Band Saw with Web Wheel.

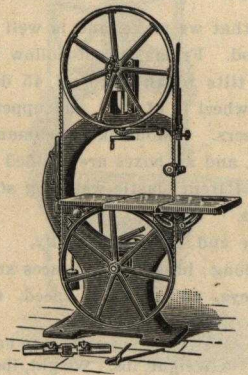


Fig. **516** Clement 34″ Band Saw.

F. H. CLEMENT CO.'S

36" BAND SAW WITH WEB WHEEL.

It is well adapted to general scroll sawing in hard or soft wood. Frame is cast hollow in one piece. Table, 32" x 32", of wood or iron; tilts to an angle of 45 degrees for bevel sawing; shafts are of steel; lower wheel is solid iron web, and upper one has hard wood rim glued up of kiln dried veneers. "Mohawk Dutchman" Guide is used. Upper shaft runs in a double box and all boxes are divided to take up wear, and are adjustable for alignment. Patent elastic weighing strain lever is provided, as in all our band saws.

Capacity, 14" vertically and 36" horizontally.

We furnish with each machine ½" blade, 19' 3" long; brazing appliances and wrenches.

T. & L. (self-oiling) pulleys, 14" x 4½"; speed, 400. Floor space, 3' 6" x 5' 2" x 8' 3" high.

				Boxed for Export		
Fig.		H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
5141	Iron Table----	2 to 3	1,400	2,000	75	**Baptisola**
5151	Wood " ----	2 to 3	1,400	2,000	75	**Baptisset**

F. H. CLEMENT CO.'S

34" BAND SAW.

Designed for lighter scroll sawing in hard or soft wood. Frame is cast hollow in one piece. Table, 32" x 32", of wood or iron; tilts to an angle of 45 degrees for bevel sawing; shafts are of steel; lower wheel is of iron, and upper one has hard wood rim glued up of kiln dried veneers. "Mohawk Dutchman" Guide is used. Main boxes are divided to take up wear, and are adjustable for alignment. Patent elastic weighing strain lever is provided, as in all our scroll band saws.

Capacity, 12" vertically and 33½" horizontally.

We furnish with each machine one ½" blade, 18' 4" long; brazing appliances and wrenches. T. & L. (self-oiling) pulleys, 12" x 3¾"; speed, 500. Floor space, 3' x 5' x 8' high.

				Boxed for Export		
Fig.		H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
516	Iron Table----	1½ to 2½	1,000	1,450	66	**Baptistic**
517	Wood " ----	1½ to 2½	900	1,350	66	**Baptizable**

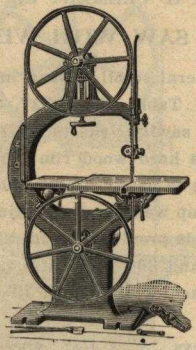


Fig. 518 Clement 30″ Band Saw.

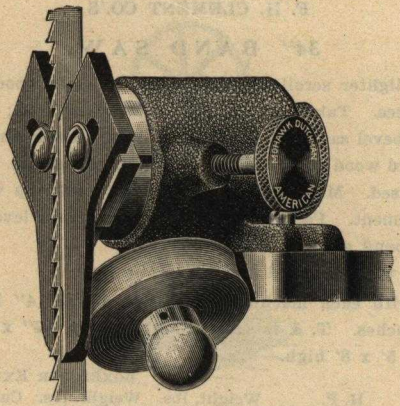


Fig. 520 "Mohawk Dutchman" Guide.

F. H. CLEMENT CO.'S

30" BAND SAW.

Adapted to light work in pattern, chair, car, furniture and jobbing shops, and is the smallest wheel that we recommend. Frame is cast hollow in one piece. Table, 28" x 29", of wood or iron; tilts to an angle for bevel sawing; both wheels are of iron, and the shafts are of steel. "Mohawk Dutchman" Guide is used. Main boxes are divided to take up wear, and are adjustable for alignment. A tempered coiled spring cushions the upper wheel.

Capacity, 12" vertically and 29" horizontally.

We furnish with each machine one ½" blade, 16' 6" long; brazing appliances and wrenches. T. & L. (self-oiling) pulleys, 12" x 3½"; speed, 500. Floor space, 3' 3" x 4' 4" x 7' 10" high.

Fig.		H. P.	Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
518	Iron Table----	1 to 2	900	1,300	45	Baptizas
519	Wood " ----	1 to 2	800	1,200	45	Baptizing

"MOHAWK DUTCHMAN" BAND SAW GUIDE.

This is a non-friction guide. It will not crystallize nor disturb the temper of the saw, and prevents the saw from cracking or breaking. The wheel forming the back guide has a concave surface on its periphery, and is set on an angle, so that the back of the saw passes diagonally across the periphery of the wheel and revolves it. The point of bearing of the wheel against the back of the saw is constantly changed, and prevents the saw from grooving the surface of the wheel by continued action in any one place. The wheel runs on a ball bearing; requires no oil; does not heat, and is always in proper position. Has adjustment for saws of different widths and gauges. It is made in two sizes, for saws up to 2" wide and saws up to 1" wide. To some makes of machines can be applied as upper and lower guides. When ordering upper guides, give distance from center of post to rim of top wheel; also send sketch showing method of applying guide to post. If there is a hole in the post, state whether round or square; also if saw is to right or left of center of guide post, state how much. When ordering lower guide give distance from wheel to frame of machine, and a sketch showing method of applying guide to frame. If guide rests on a support, give distance from table to support. If attached to frame by bolt, give distance from table to center of hole; also diameter of hole. State also if the saw is to the right or left of hole, as in the case with the upper guide.

Fig.		Code
520	Guide for 2" Saw----	Baqueta
521	" " 1" " ----	Barbicola

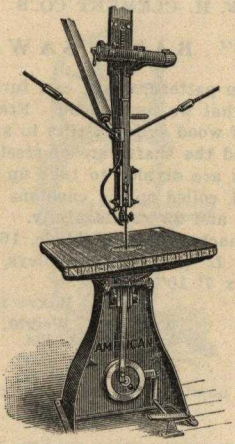


Fig. **522** Williamsport Scroll Saw.

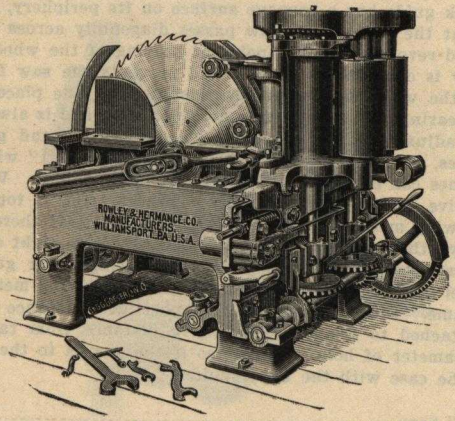


Fig. **531** Rowley & Hermance 38″ Re-saw.

WILLIAMSPORT MACHINE CO.'S

IMPROVED SCROLL SAW.

THE FRAME is cast in one piece, making a very solid base, which allows of a high rate of speed. The table is 36" x 38"; made of alternate strips of hard wood fastened to heavy cast iron plates, which prevent warping. An 8" iron plate surrounds the saw. The head stock carrying the strain is adjusted to suit different lengths of saws. The strain is very simple and strong. Any amount of tension can be put on the saw. We get an even tension on saw at all points of the stroke. The strain may be raised or lowered for any thickness up to 12". Length of stroke, 5". Crank shaft carries a friction pulley and combination brake, by which the saw is stopped and started instantly by a single motion of the foot. Changing from inside to outside work is instantaneous. Both upper and lower parts are arranged to take up lost motion and wear. A brass pump supplies air to blow away the dust. We furnish four saws—¼", 12" long; ⅜", ½" and ⅝", 14" long. Driving pulley, 8½" x 3"; speed, 900.

				BOXED FOR EXPORT			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
522	Tilting Table	36" x 39"	2	600	795	48	**Barbicone**
523	Stationary Table	36" x 39"	2	600	795	48	**Barbilla**

ROWLEY & HERMANCE CO.'S

"NEW CHAMPION" CIRCULAR RE-SAW.

THE FRAME is very heavy and is cast in one piece. The arbor overhangs the box, which admits of the saw being easily removed. The saw arbor boxes are adjustable to and from the rolls by means of a screw. The rolls are self-centering. They open 6", and 1" board may be cut from a 4" plank. One pair of rolls may be made stationary. The platen that supports the rolls turns upon a center for sawing beveled sidings, etc. All have reverse feed except Fig. 535. We furnish one saw with each machine.

Floor space for Figs. 524 to 529, inclusive, 7' 8" x 5' 1"; hole in saw, 2". Floor space for Figs. 530 to 534, 6' 9" x 4' 9"; hole in saw, 1¾". Floor space for Fig. 535, 6' x 4' 6"; hole in saw, 1⅝".

			Pulley			BOXED FOR EXPORT			
Fig.	Size	Width of Cut	on Mandrel	Speed	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
524	60" Seg. Saw.	27"	24 x 12	650	12 to 15	5,500	6,000	150	**Barful**
525	54" "	25"	20 x 10	700	12 to 15	5,000	5,500	150	**Barfuss**
526	50" "	22"	18 x 10	750	10 to 12	4,600	5,000	150	**Bargagno**
527	44" "	20"	18 x 10	850	10 to 12	4,200	4,600	150	**Barganal**
528	42" "	19"	18 x 10	850	9 to 10	3,900	4,300	150	**Barganted**
529	42" Solid Saw.	19"	18 x 10	850	9 to 10	3,900	4,300	150	**Barmotes**
530	38" Seg. Saw.	17"	14 x 8	950	8 to 10	3,700	4,000	90	**Barnaba**
531	38" Solid Saw.	17"	14 x 8	950	8 to 10	3,700	4,000	90	**Barnabitas**
532	34" Seg. Saw.	15"	14 x 8	1,050	6 to 9	3,400	3,700	90	**Barniz**
533	34" Solid Saw.	15"	14 x 8	1,050	6 to 9	3,400	3,700	90	**Bartram**
534	30" "	13"	12 x 8	1,200	4 to 8	3,200	3,500	90	**Bartrobbe**
535	24" "	10"	8 x 6	1,500	4 to 6	2,000	2,300	90	**Bartsia**
536	Countershaft for any of the above machines, extra								**Bartstern**

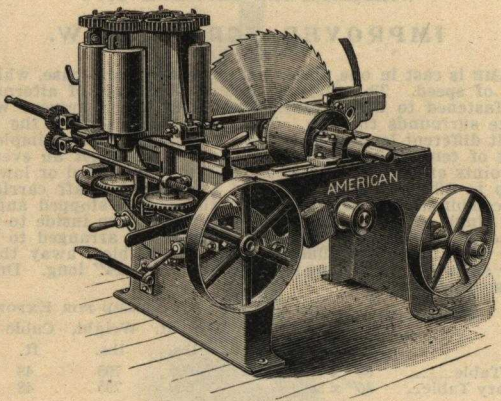


Fig. **539** Hoyt No. 6, 32″ Re-saw.

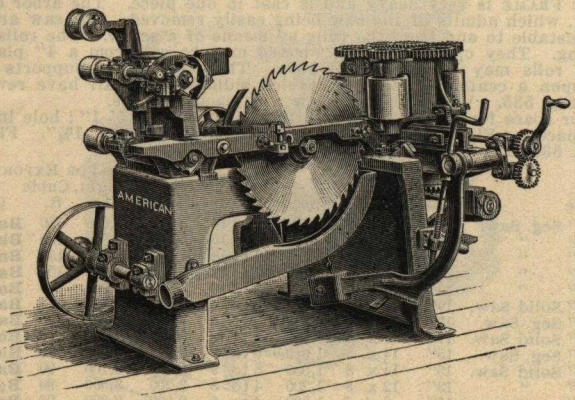


Fig. **540** Hoyt No. 5, 24″ Re-saw with Double Jointers.

HOYT & BRO. CO.'S

No. 6, 32″ CIRCULAR RE-SAW.

Carries a 32″ taper ground saw, and will split lumber 12″ wide and 8″ thick. It is a very simple, strong machine. Has four feed rolls, 6″ in diameter, 12″ high, all strongly geared, their pressure being given by a weight. One pair may be rigidly locked. A treadle enables one to instantly open the rolls for the removal of work. The feed may be started or stopped at will. Siding may also be done on this machine. To make the change, loosen two handles, and tilt rolls by means of a screw to a stop, which will give the required bevel. The arbor and its boxes are adjustable to and from the rolls. To remove the saw, it is only necessary to loosen two bolts, releasing a part of the table, which may then be removed. An under jointer or a double jointer rig may be used on this re-saw, although when used it will only carry a 24″ saw. The double jointer will joint both edges of material from 3″ to 6″ wide. We furnish one solid plate saw up to 32″ diameter, 1⅝″ hole.

Pulley on arbor, 10″ x 8″; speed, 1,225.

				Boxed for Export			
				Weight,	Weight,	Cubic	
Fig.		Floor Space	H.P.	lbs.	lbs.	ft.	Code
537	With Dble. Jointers	4′ 6″ x 5′ 6″	6 to 9	1,950	2,250	45	**Bartulos**
538	With Under Jointer	4′ 6″ x 5′ 6″	6 to 9	1,750	2,050	45	**Baruffa**
539	Without Jointer	4′ 6″ x 5′ 6″	6 to 9	1,700	2,000	45	**Basketh**
536	Countershaft, extra						**Bartstern**

HOYT & BRO. CO.'S

No. 5, 24″ CIRCULAR RE-SAW.

Carries a 24″ taper ground saw, and will split 6″ wide and 8″ thick.

Same machine as our No. 4, with the double jointer attachment. It is a very useful machine when one wishes to dress siding on a surfacer, thereby relieving their matchers. Four 6″ feed rolls, all strongly geared; their pressure being given by a weight. One pair may be rigidly locked. A treadle instantly opens the rolls for the removal of work. The feed may be started or stopped at will. To set for siding, loosen two handles, and tilt rolls by means of a screw to a stop, which gives you the required bevel. The arbor and its boxes are adjustable to and from the rolls. To remove the saw, it is only necessary to loosen two bolts, releasing a part of the table, which may then be removed. The double jointer will joint both edges of material from 3″ to 6″ wide. We furnish one solid plate 24″ saw, 1⅝″ hole.

Pulley on arbor, 10″ x 8″; speed, 1,630.

				Boxed for Export			
				Weight,	Weight,	Cubic	
Fig.		Floor Space	H.P.	lbs.	lbs.	ft.	Code
540	With Dble. Jointers	4′ 6″ x 5′ 6″	6 to 9	1,850	2,150	45	**Basketry**
536	Countershaft, extra						**Bartstern**

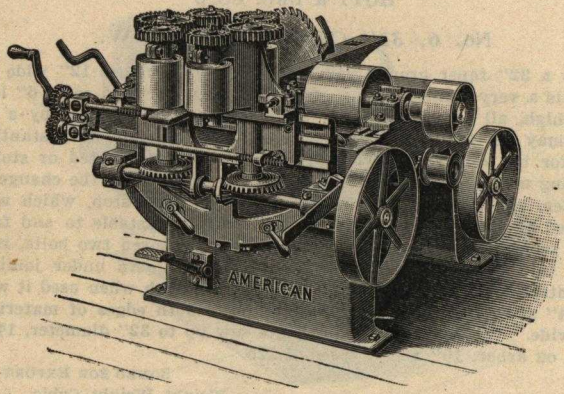


Fig. 541 Hoyt No. 4, 24″ Re-saw.

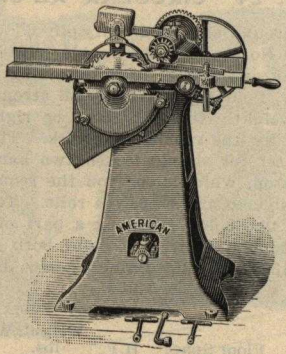


Fig. 543 Houston Blind Slat Re-saw.

HOYT & BRO. CO.'S

No. 4, 24" CIRCULAR RE-SAW.

Carries a 24" taper ground saw, and will split 6" wide and 8" thick.

It is a simple, strong and effective machine. Four 6" feed rolls, all strongly geared, their pressure being given by a weight. One pair may be rigidly locked. A treadle enables one to instantly open the rolls for the removal of work. The feed may be started or stopped at will. To set for siding, loosen two handles, and tilt rolls by means of a screw to a stop, which gives the required bevel. The arbor and its boxes are adjustable to and from the rolls. To remove the saw, it is only necessary to loosen two bolts, releasing a part of the table, which may then be removed. The under jointer and its pressure is very complete in its arrangement. A double jointer attachment can also be applied, which will joint both edges of material from 3" to 6" wide. (See Fig. 540.) We furnish with each machine one solid plate 24" saw, 1⅛" hole.

Pulley on arbor, 10" x 8"; speed, 1,630.

Fig.		Floor Space	H.P.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
541	Without Jointers	4' 6" x 5' 6"	6 to 9	1,600	1,900	45	**Baslard**
542	With under Jointer	4' 6" x 5' 6"	6 to 9	1,600	1,900	45	**Basochial**
536	Countershaft, extra						**Bartstern**

THE LEVI HOUSTON CO.'S

BLIND SLAT RE-SAW.

Designed for sawing blind slats, trunk slats, small mouldings, etc. The frame is heavy, and cast in one piece. The machine is furnished with either two or three 10" saws, 1" hole. The driving pulley runs between two bearings. The feed on this machine is very powerful and positive. It is self-adjusting, accommodating itself to any thickness of material up to 2½", and will feed from 30' to 60' per minute. The steel shield over the saws serves as a spring to help hold down the lumber, while the shield under the saw prevents accident. The strips between the saws may be adjusted to run different thicknesses of material by using extra collars. The feeding spurs are same thickness as the saws, and arranged to run directly in front of them. Simple in construction, easily adjusted, and may be run by a boy.

Pulley on arbor, 5" x 5¾"; speed, 3,500. Countershaft, as an extra, T. & L. (self-oiling) pulleys, 7¾ x 4½"; speed, 900.

Fig.		Floor Space	H.P.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
543	With three Saws	3' x 2' 9"	1 to 2	500	700	41	**Basorina**
544	" two "	3' x 2' 9"	1 to 2	500	700	41	**Basoritem**
5441	Countershaft, extra						**Baspino**

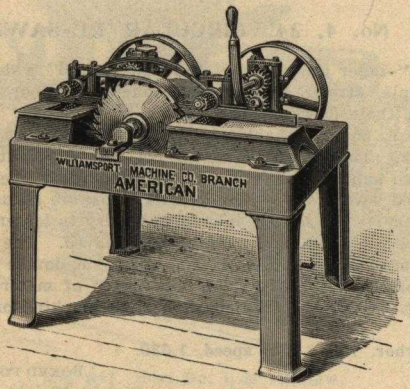


Fig. **545** Williamsport Lath Mill.

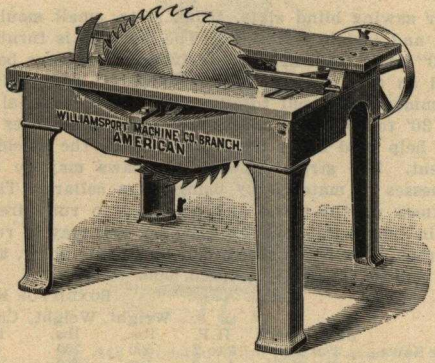


Fig. **546** Wi liamsport Lath Bolter.

WILLIAMSPORT MACHINE CO.'S

LATH MILL.

This machine is intended for the manufacture of Lath of uniform thickness.

THE FRAME is of iron, rigidly constructed and carefully fitted in all its parts.

THE TABLE is adjustable and as the saws wear it can be moved closer to them by loosening the bolts shown at the side.

THE ARBOR is of steel and carries three saws 14" in diameter, 1⅝" hole. The end box is arranged to take up any lost motion.

THE FEED consists of four driven rolls made with sections of small steel spurs, giving a very positive feed, and carries out the pieces after they leave the saws. The lever shown in cut is for raising the upper rolls so that the operator can withdraw the bolt at any time or stop the feed.

The capacity is from 30,000 to 35,000 Lath per day.

We furnish with each machine three 14" saws, a shield and necessary wrenches.

Driving pulley is 8" x 8"; speed, 2,500.

				Boxed for Export		
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
545 Lath Mill	3' x 3' 9"	7 to 8	900	1,250	40	**Bastone**

WILLIAMSPORT MACHINE CO.'S

LATH BOLTER.

A strong, durable machine for preparing lath and picket material. It will rip bolts for 30,000 to 35,000 lath per day.

THE FRAME is of iron, carefully fitted to give strength and solidity.

THE IRON TABLE is planed true, and is hinged at the rear of the machine so that it can be raised to remove the saw.

THE ARBOR is of steel and carries a 24" saw with 1⅝" hole.

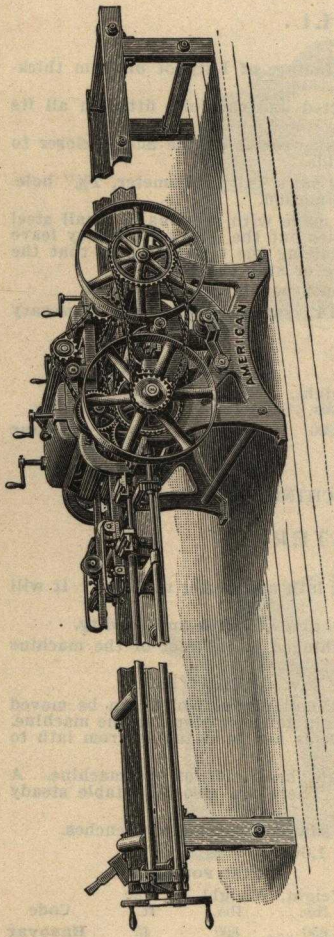
THE MAIN GAUGE is provided with sectional pieces, which can be moved to saw 1", 1½" or 2" without moving the main gauge or stopping the machine. This is a very important feature, as no time is lost in changing from lath to pickets.

THE FEED ROLL is driven from the right hand side of the machine. A steel spreader is placed back of the saw. There are also adjustable steady pins for the saw.

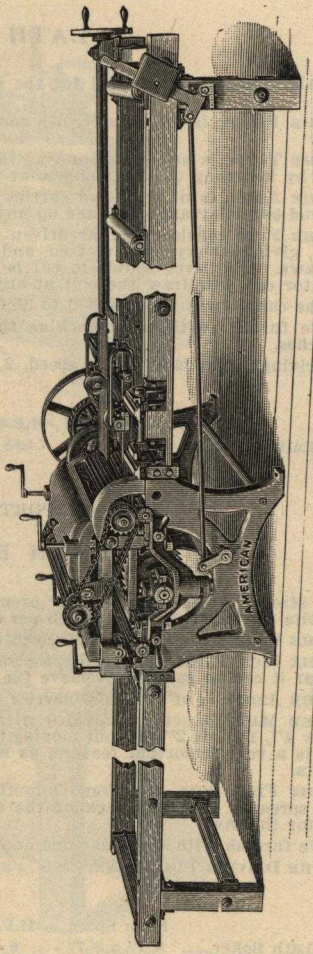
We furnish with each machine one 24" saw and necessary wrenches.

THE DRIVING PULLEY is 8" x 8"; speed, 1,600.

				Boxed for Export		
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
546 Lath Bolter	3' 7" x 3' 7"	6	650	800	45	**Basovar**



Right-hand Side.



Left-hand Side.

Fig. 547 Hoyt Hardwood Gang Edger.

HOYT & BRO. CO.'S

NEW 30″ HARDWOOD POWER-FEED GANG EDGER AND RIPPER.

Designed especially for ripping stock for hard wood flooring. It will rip stock up to 2½″ thick and 30″ wide at from 90′ to 200′ per minute—14″, 15″ or 16″ saws may be used and they may be of 12, 14 or 16 gauge.

FOUR FEED rolls, 4½″ in diameter, are driven, and all except the rear upper roll, are fluted.

PRESSURE on feed rolls may be varied at will, insuring a steady feed and making it impossible for lumber to gig back from the saws.

SAW ARBOR is of steel, 2⅜″ in diameter, has long bearings and a vertical adjustment of 2½″.

This adjustment permits the setting of the saws so as to give the minimum amount of friction on the sides and at the same time brings the cutting arc of the saw parallel with the fiber of the wood, preventing the breaking of the lower edges of the stock.

THE SAWS are not adjustable. The saw collars are made in groups of the proper thicknesses to give the various widths stock desired.

The machine is fitted with two guides, one on either side, which have a lateral adjustment of 7″, by means of two levers placed to the right or left as may be desired. Guides may be set by sixteenths. Each guide is fitted with a crowder roll to keep lumber in constant contact with the guide.

THE FRONT AND REAR TABLES are made of hard maple well put together. Front table is fitted with turned iron carrier rolls 3½″ in diameter. Rear table is not fitted with rolls unless expressly ordered, but is made with a solid maple top set on an incline.

THE END GATE may be removed and saws changed without the use of any tool whatever.

Eight saws and collars for 2″, 2¼″, 2½″ and 3¼″ face flooring furnished with machine. Hole in saws, 3⅝″.

Arbor pulley is 10″ in diameter for 10″ belt; speed, from 2,000 to 2,500.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
547	30″ Hardwood Machine.	20′ x 6′ 4″	8 to 10	3,800	5,500	180	**Basqueo**
559	Countershaft, extra			300	----	---	**Bazucafis**

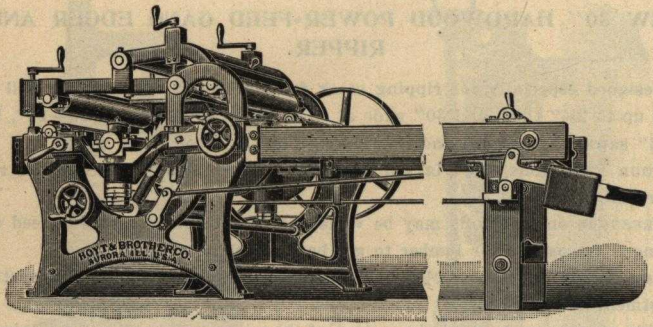


Fig. 548 Hoyt 30″ Gang Ripping Machine.

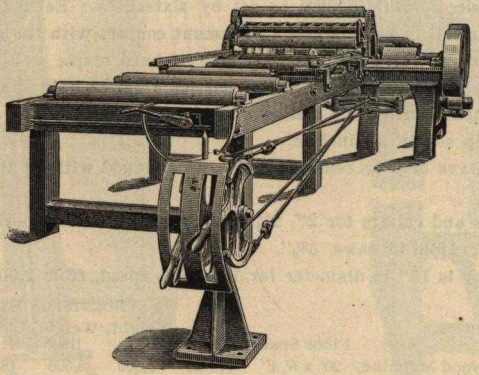


Fig. 550 Williamsport No. 2 Heavy Gang Edger.

HOYT & BRO. CO.'S

30" POWER FEED GANG RIPPING MACHINE.

The rear table is not shown, but is similar to the front. Both are provided with turned iron carrier rolls. The rear table has an adjustable guide spring, which can be given any tension desired, instantaneously, by lever on the right of the operator. There are three power rolls and one dead roll, all 4½" in diameter. The adjustable pressure bar in front of the saws supports the lumber until the cut is completed. The arbor is adjustable, made of the best tool steel, 2⅜" in diameter, and runs in adjustable boxes, the saws being raised to accommodate the thickness of the material. By the use of our adjustable arbor we are enabled to use thinner saws, and are not as liable to burn. The end bridge tree can be removed to change saws. Machine carries three 15" saws, 12 gauge, 3⅜" hole, which can be moved to any fraction of an inch. Three extra saws and collars are furnished with each machine. It will feed 200' per minute.

Pulley on arbor, 10" in diameter for 10" belt; speed, 2,000.

				Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
548	30" Gang Ripper-- 20' x 6' 4'	8 to 10	3,300	5,000	180	**Basquinate**
559	Countershaft, extra----------		300	----	----	**Bazucafis**

WILLIAMSPORT MACHINE CO.'S

HEAVY GANG EDGER.

A heavy machine for saw mills. The arbor is made of steel, 3" in diameter, double key-seated, with self-oiling boxes. The operator can set the movable saws within 1-16" accurately and positively. Floor-stand graduated. Our method of adjustment allows sawing strong or scant sizes. Has improved method of removing the end box to allow the bar to swing around out of the way. We furnish the wooden approaches or tables, and seven iron rolls, four in front of the saws and three back of them. No. 1 has three fluted feed rolls driven. Broken or double binder rolls front and back, admitting of sawing two thicknesses at once. One stationary and one movable gauge; one stationary and two movable saws, and one gang collar for four saws, making seven saws 16" in diameter, 4" hole. Arbor pulley, 12" x 12"; speed, 2,500. No. 2 has two fluted feed rolls driven, heavy iron binder roll front and back, otherwise the same as No. 1. No. 3 has one movable gauge, one stationary and two movable saws, 16" in diameter, 3¼" hole. Arbor pulley, 10" x 10"; speed, 2,500.

				Boxed for Export			
Fig.	Size Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
549	No. 1, saws 48" x 6"-- 23'7" x 10'2"	10 to 12	4,000	5,600	195	**Basquish**
550	No. 2, saws 48" x 6"-- 23'7" x 10'2"	10 to 12	3,500	5,200	195	**Bastingale**
551	No. 3, saws 36" x 5"-- 23'7" x 9'2"	8 to 10	3,000	4,500	190	**Batangofa**
559	Countershaft, extra----------		300	----	---	**Bazucafis**

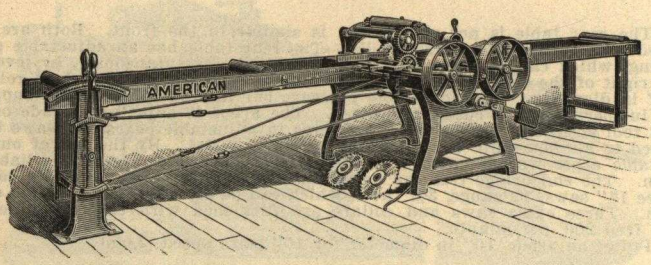


Fig. **552** Williamsport No. 1 Gang Ripping Machine.

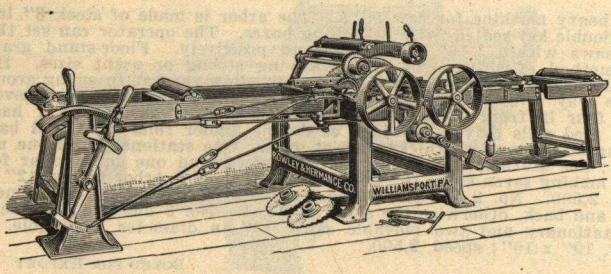


Fig. **555** Rowley & Hermance No. 1 Queen Gang Ripping Machine.

WILLIAMSPORT MACHINE CO.'S

POWER-FEED GANG RIPPING MACHINE.

This machine is capable of ripping 100,000′ of stock lumber in ten hours. The feed rolls are all driven. The arbor is made of steel, double key-seated, and runs in self-oiling boxes. Swinging end bar, with sliding box for changing saws. The feed works have two changes of speed—100′ and 180′ per minute. The floor-stand has one lever on each side, with segmental plate on top graduated to quarters of inches. The cut represents a right-hand machine. We build them left-hand on order. Two stationary and two movable collars and four 14″ saws are included with each machine. We can arrange this machine with an extra movable saw at an additional moderate charge. When used as a small edger we will spike the rolls for carrying the lumber through straight without additional charge.

Pulley on arbor, 8″ x 8½″; speed, 2,600.

				Boxed for Export			
Fig.	Size	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
552	No. 1, saws 26″ x 3″	19′ x 5′ 3″	6 to 8	1,500	2,100	110	**Batilla**
553	No. 2, saws 30″ x 3″	19′ x 5′ 7″	6 to 8	1,600	2,200	115	**Batochus**
554	No. 3, saws 40″ x 3″	19′ x 6′ 1″	6 to 8	1,700	2,350	125	**Batoning**
559	Countershaft, extra			300	----	---	**Bazucafis**

ROWLEY & HERMANCE CO.'S

No. 1 QUEEN POWER-FEED GANG RIPPING MACHINE.

Has two rates of feed, and will rip stock boards at the rate of from 80,000′ to 100,000′ per day of ten hours. All rolls are driven. The arbor is very heavy, has three bearings, running in self-oiling boxes. Sizes can be ripped "scant" or "strong," and perfectly straight. The cut represents right-hand machine. We build them left-hand on order. Four collars, two adjustable and two stationary, and four 14″ saws, 3⅛″ hole, are included with each machine.

Pulley on arbor, 8″ x 8″; speed, 2,500.

				Boxed for Export			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
555	Saws 26″ x 4″	24′ x 5′	6 to 8	1,650	1,900	110	**Batossa**
559	Countershaft, extra			300	----	---	**Bazucafis**

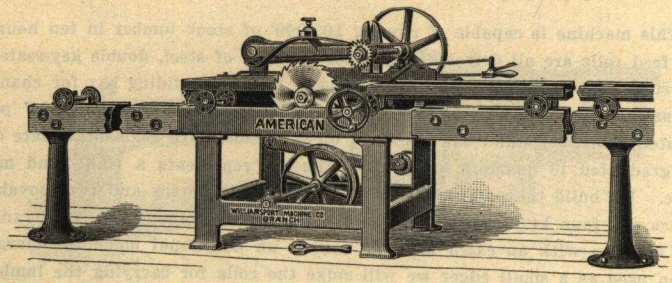


Fig. **556** Williamsport Carriage Edger.

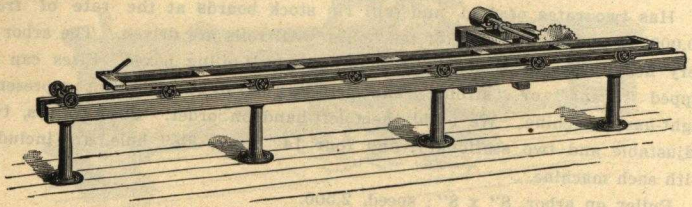


Fig. **557** Rogers Carriage Edger.

WILLIAMSPORT MACHINE CO.'S

POWER-FEED CARRIAGE EDGING AND JOINTING SAW.

Provided with feed works, and can be used as a single edger or as a regular self-feed rip saw. Frame is heavy. The carriage runs on iron rollers which have babbitted boxes. The gauge is operated by improved set works and is graduated by sixteenths. Hand wheel for raising and lowering the feed works and for stopping the feed. The standard length of carriage is 16', and any length of carriage can be supplied at extra cost. There are three changes of feed—60', 120', 180'. All iron and steel excepting the carriage and the extensions. The saw is 16" in diameter, 1¼" hole, and will cut through stock 5" thick. Maximum distance from saw to gauge is 15". The arbor can be made to carry two saws up to 4" apart when so ordered, as an extra.

The pulley on the arbor is 6" x 6"; speed, 2,000.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
556	Carriage Edger	4' x 32'	4 to 8	1,500	2,500	100	**Bazat**
559	Countershaft, extra			300	----	---	**Bazucafis**

C. B. ROGERS & CO.'S

HAND-FEED CARRIAGE EDGING SAW.

For jointing edges and splitting planks and boards. Provided with table and splitting gauge if desired. The frame is made of wood mounted on iron posts. On this frame are placed at considerable distances apart flat wheels of good size on which the carriage is easily moved. The standard length of the carriage is 16', but this can be furnished longer at a special price. Each machine is supplied with a 16" saw; 1" hole. Will cut through 5".

Pulley on arbor is 4½" x 5"; speed, 2,000.

Countershaft furnished as an extra.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
557	Without Table	5' x 32'	3 to 6	850	1,295	60	**Bazofia**
558	With Table and Ripping Gauge.	5' x 32'	3 to 6	850	1,295	60	**Bazucaba**
559	Countershaft, extra			300	----	--	**Bazucafis**

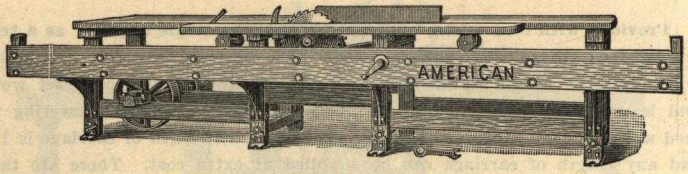


Fig. 560 Williamsport 7′ Carriage Edger.

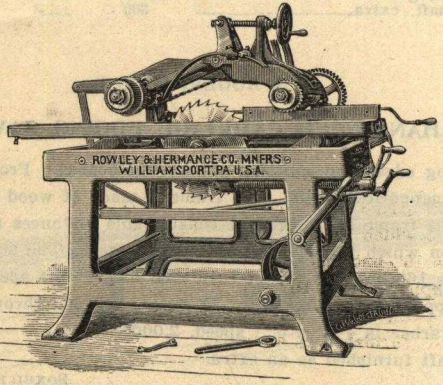


Fig. 561 Rowley & Hermance No. 3 Self-feed Rip Saw.

WILLIAMSPORT MACHINE CO.'S

HAND-FEED CARRIAGE EDGING SAW.

For jointing edges or splitting planks and boards. The frame is wood, and the ways on which the movable table runs are substantially held by iron supports on the main frame. The stationary table is 12′ long by 2½′ wide. It is provided with a regular square rip gauge, which may be placed 25″ from the saw. The movable carriage runs on rollers. It is 7′ long by 12″ wide. Material 7′ in length can be ripped when using the carriage. The saw may be dropped below or extended to 4″ above table. Each machine is supplied with one 16″ saw, 1⅛″ hole. Countershaft is attached to the frame and has T. & L. (self-oiling) pulleys, 10″ x 5″; speed, 550.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
560	7′ Carriage Edger	14′ 4″ x 3′ 6″	6	1,000	1,500	90	Bazucaron

ROWLEY & HERMANCE CO.'S

No. 3 HEAVY PATTERN LIGHTNING SELF-FEED RIP SAW TABLE.

Designed for ripping up to 18″ wide and 6″ thick. Iron frame cast in one piece. The table is iron, 3′ 7″ wide by 5′ long, into which an iron plate is accurately fitted. The table is raised or lowered vertically by improved patent table raising device. Table is provided with two long idle rolls. The out-feeding role is an important feature to the power feed. There are three rates of feed—72, 132 and 190 lineal feet per minute. Method of changing from self feed to hand feed is simple. The gauge can be set accurately and by a slight movement of the lever is locked. We furnish with each machine one 18″ saw, 1⅝″ hole (a 24″ saw can be used). The feed rolls are fitted with spreader. Two or more saws can be used at one time, by having extra collars on the saw arbor and the feed rolls fitted accordingly.

Pulley on arbor, 8″ x 8″; speed, 2,000.

Countershaft as an extra; T. & L. (self-oiling) pulleys, 12″ x 8″; speed, 700.

No. 2 Lightning Self-feed Rip Saw is the same machine as the No. 3, except that it is built without the feeding-out roll.

Fig.		Floor Space	H. P.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
561	No. 3, S. F. Rip Saw	6′ 3″ x 5′	6 to 10	2,200	2,690	145	Bazuco
562	Countershaft, extra			300	----	---	Beccaro
563	Bevel Siding Attachment, extra						Becco
564	No. 2, S. F. Rip Saw	6′ 3″ x 5′	6 to 10	1,800	2,290	140	Beddezak
565	Countershaft, extra			300	----	---	Beddingen
566	Bevel Siding Attachment, extra						Bedropped

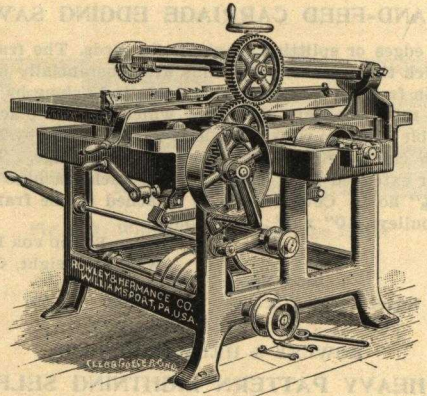


Fig. 567 Rowley & Hermance No. 1 Self-feed Rip Saw.

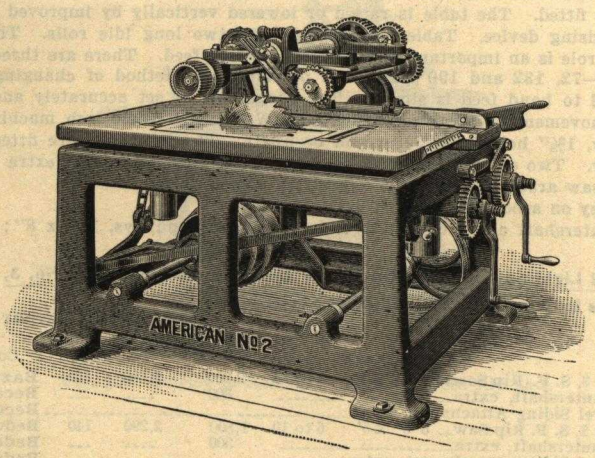


Fig. 5701 American No. 2 Self-feed Rip Saw.

ROWLEY & HERMANCE CO.'S

No. 1 LIGHTNING SELF-FEED RIP SAW.

Rips lumber into strips of any width up to 16" wide and 5" thick. The iron frame is cast in one piece. The table is iron, 3' 5" wide by 4' 6" long, with an opening around the saw into which an iron plate is accurately fitted. The table is raised or lowered vertically. It is provided with two iron idle rolls. There are three rates of feed—45, 100 and 160 lineal feet per minute. The gauge can be set at any mark on the index plate, or at any fraction of an inch. A shield covers the saw when in operation, and the table is supplied with a spreader. One 14" saw, 1¼" hole, furnished (a 16" saw can be used). Two or more saws can be used at one time if so desired. Also supplied with feeding-out roll same as No. 3 machine, Fig. 561, as an extra. Bevel siding attachment as an extra.

Pulleys on arbor, 6" x 6"; speed, 2,800.
Countershaft as an extra; T. & L. (self-oiling) pulleys, 10" x 6"; speed, 900.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
567	No. 1, S. F. Rip Saw	5' x 4' 6"	4 to 6	1,500	1,800	80	**Bedropping**
568	No. 1, S. F. Rip Saw, with Feed-Out Roll	5' x 4' 6"	4 to 6	1,650	1,950	90	**Bedsane**
569	Countershaft, extra			250	----	--	**Bedstraw**
570	Bevel Siding Attachment, extra						**Beducked**

AMERICAN

No. 2 SELF-FEED RIP SAW TABLE.

Designed for ripping all kinds of stock up to 25" wide and 6" thick.

THE TABLE is 40" wide by 55½" long, provided with two adjustable idler rolls and an iron throat plate so arranged that two or more saws can be used at the same time, 6½" apart or less. It is fitted with our improved locking gauge. The table rises or falls 5" by a single motion of the first right hand crank, and is held firmly in position. The table is counterbalanced and fitted with an index plate.

THE FEED consists of a corrugated and spur feed roll in front, and a corrugated feed roll with spreader in rear of saw, all 5" in diameter. These rolls can be set up close to a 10" saw, or can expand to take in a 20" saw. The feed rolls can be adjusted for ripping 6" thick and are driven by chain, sprocket wheel and expansion gearing. The shafts run in connected boxes, which are fitted to two swinging housings having independent lift.

There are three changes of feed—60, 120 and 180 lineal feet per minute. The feed is controlled by the handle at the left of the operator.

THE ARBOR is 1⅝" in diameter and runs in three self-oiling boxes 5½" long. Pulley on arbor is 7" x 7½"; speed, 2,500.

We furnish with each machine one 14" saw (a 20" saw can be used), 1⅜" hole, and necessary wrenches.

Countershaft, extra, T. & L. (self-oiling) pulleys, 12" x 8"; speed, 730.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
5701	No. 2 S. F. Rip Saw	4' 10" x 5' 2½"	5 to 8	2,100	2,600	115	**Beduckfig**
5702	Countershaft, extra		----	300	----	----	**Beduckgota**
5703	Bevel Siding Attachment, extra		----	----	----	----	**Beduckham**

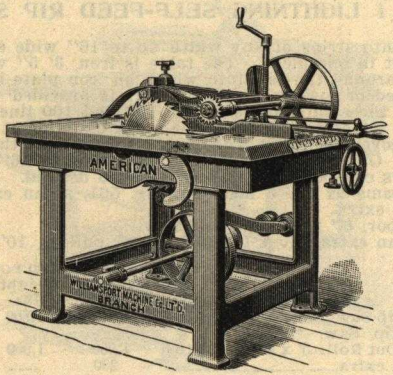


Fig. 571 Williamsport Self-feed Rip Saw.

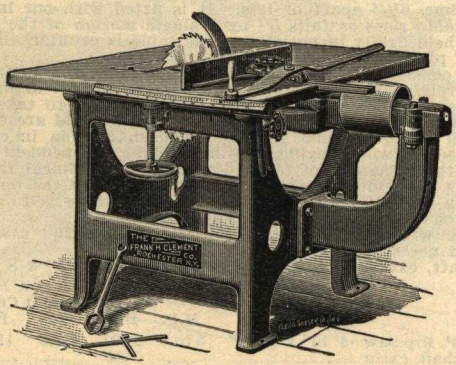


Fig. 575 Clement No. 2 Iron Frame Rip Saw.

WILLIAMSPORT MACHINE CO.'S

SELF-FEED RIP SAW.

For ripping up to 20" wide, 6" thick. The table is iron, 3' 2" wide, 4' 6" long. There are four rates of feed—60, 80, 120, 180 lineal feet per minute. This machine is built with or without raising and lowering attachment. An attachment for sawing straight or bevel siding is furnished at extra cost. We furnish one 14" saw, 1¼" hole.

Arbor pulley, 6" x 6"; speed, 2,700.

Countershaft as an extra; T. & L. (self-oiling) pulleys, 10" x 6"; speed, 900.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
571	With Raising Att	4' x 4'	4 to 6	1,300	1,500	65	**Beducking**
572	Without Raising Att	4' x 4'	4 to 6	1,200	1,400	65	**Befare**
573	Countershaft, extra			250	----	--	**Befesta**
574	Bevel Siding Attachment, extra						**Befevalo**

F. H. CLEMENT CO.'S

No. 2 IRON FRAME RIP SAW BENCH.

Adapted to light or heavy work up to 5" thick and 16" or 24" wide. Frame is cast in one piece; table is of iron, 38" x 54", hinged at back, and is raised by a screw and clamped at sides; arbor is hard steel, 1⅝" in diameter, with ground journals and three self-oiling boxes; rip gauge has square fence; is instantaneously adjusted by hand lever to 16" wide and by clamp wheel to 24"; a 16" saw, with 1¼" hole, is furnished, and it projects 4" above the table (20" saw may be used).

Arbor pulley, 7" x 7½"; speed, 2,100.

Countershaft, when wanted, has T. & L. pulleys (self-oiling), 12" x 8¼"; speed, 600.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
575	Without Counter	4' 6" x 4' 6"	5 to 8	900	1,150	62	**Beffen**
576	With Counter	4' 6" x 8'	5 to 8	1,100	1,350	62	**Belot**

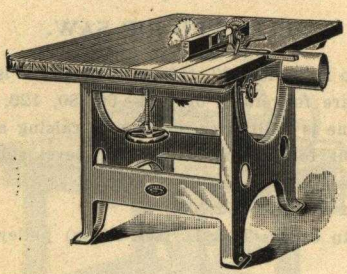


Fig. **577** Clement No. 1 Iron Frame Rip Saw.

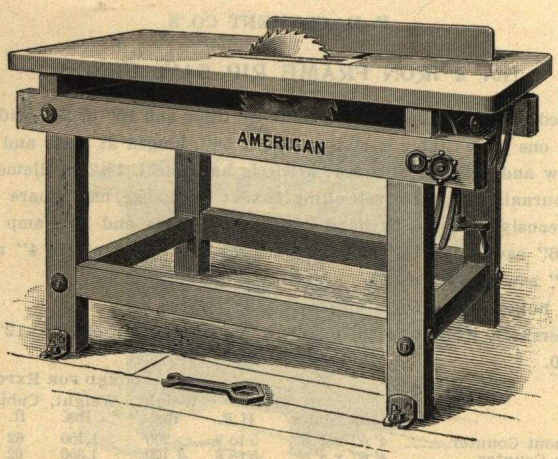


Fig. **579** Williamsport No. 1 Wood Frame Saw.

F. H. CLEMENT CO.'S

No. 1 IRON FRAME RIP SAW BENCH.

Adapted to ordinary ripping up to 3" or 4" thick and 24" wide; frame is cast in one piece; arbor yoke is rigid and firmly bolted in; arbor is hard steel, 1⅜" in diameter, with ground journals and self-oiling boxes; table is of hard wood, 40" x 54", hinged at back, raised by a screw and clamped at sides; ripping gauge is all iron and adjustable from square to miter; cut-off gauge and track may be added as an extra; countershaft when wanted has self-oiling loose pulley. A 12" saw projects 2½" above the table (18" saws may be used); 16" saw is furnished with 1¼" hole. Arbor pulley, 6" x 6½"; speed, 2,400. Countershaft, when wanted, has T. & L. (self-oiling) pulleys, 12" x 6¼"; speed, 600.

				Boxed for Export			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
577	Without Counter	4' x 4' 6"	3 to 5	550	800	54	**Belva**
578	With Counter	4' x 7'	3 to 5	700	950	54	**Benchet**

WILLIAMSPORT MACHINE CO.'S

SLITTING SAW TABLE.—WOOD FRAME.

These machines have a hard wood frame, well seasoned. The top is made of narrow strips of different woods glued up and being fastened to cross-girts cannot warp or split. Each machine is furnished with one of our patent cone bushing, self-oiling saw arbors; connected babbitted boxes; pulley on outside unless otherwise ordered. A square ripping gauge is furnished and one 14" saw, which extends 3¼" above table. Bevel rip gauge in place of regular at extra cost.

Fig.	Size	Table	For Saws	Hole	Pulley	Speed
579	No. 1	2' 7" x 4'	— to 14"	⅞" to 1¼"	4" x 5"	2,700
580	No. 2	2' 10" x 4' 8"	14" to 16"	1" to 1½"	4½" x 5"	2,400
581	No. 3	3' x 5'	16" to 20"	1⅛" to 1⅝"	5" x 6"	2,000
582	No. 4	3' 4" x 5' 6"	20" to 24"	1¼" to 1¾"	5½" x 6"	1,500
583	No. 5	3' 6" x 6'	24" to 30"	1⅜" to 2"	6" x 7"	1,250
584	No. 6	3' 8" x 6'	30" to 36"	1½" to 2¼"	8" x 8"	1,000

			Boxed for Export			
Fig.		H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
579	No. 1	2 to 4	250	325	36	**Benda**
580	No. 2	3 to 5	300	375	45	**Beneck**
581	No. 3	4 to 6	350	425	55	**Benefino**
582	No. 4	5 to 7	400	500	65	**Benegita**
583	No. 5	6 to 8	450	560	75	**Benigno**
584	No. 6	7 to 10	500	625	85	**Bensic**
585	Bevel Rip Gauge in place of Plain Gauge, extra					**Bergola**
	For Arbor Pulley inside of frame, add the word					**Beripeta**

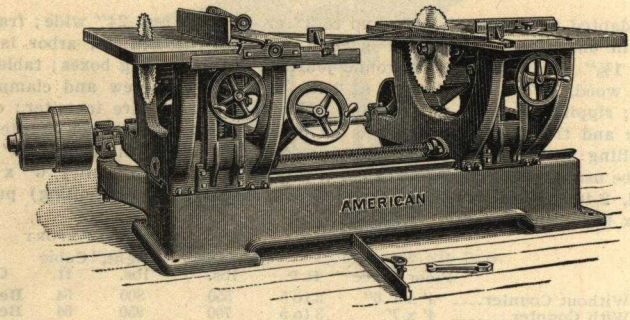


Fig. **586** Clement Improved Double Cut-off Saw.

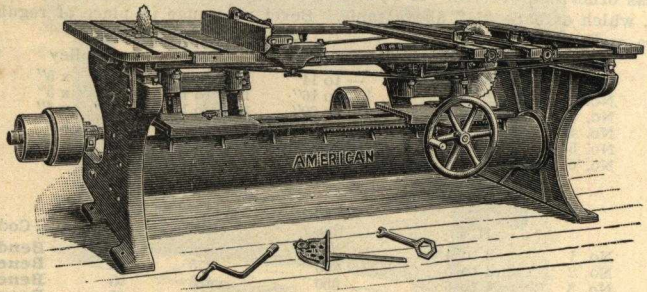


Fig. **587** Williamsport No. 2 Double Cut-off Saw.

F. H. CLEMENT CO.'S

IMPROVED DOUBLE CUT-OFF SAW.

The bed is heavy and has three bearings on the floor, preventing twisting and consequent derangement of the table alignment.

The head blocks are cast in one piece and bearings for the countershaft in the rear.

The arbors run in self-oiling boxes and the yoke carrying the boxes is adjustable vertically and horizontally; in addition to this it has a longitudinal adjustment to take up the slack of the belt by means of a screw. This is not found on any other similar machine.

The arbor frames swing vertically on trunnion pins at the rear and are guided on vertical ways in front with screws and hand wheels for adjusting them.

The tables have longitudinal grooves to receive the gauge tongues. The left hand table is provided with a rip-gauge adjustable to 45°.

The cut-off gauges consist of one expansion gauge for general work, adjustable for various lengths up to full capacity of the machine, and one swivel gauge adjustable to 45° either way.

The capacity of the machine is from 6″ to 6′ 9″ in length, 4″ thick, and 30″ wide; two 16″ saws, 1¼″ hole, furnished; can be made to cut 9′ long at extra cost.

The countershaft has four bearings; T. & L. (self-oiling) pulleys, 12″ x 6¼″; speed, 600.

				Boxed for Export			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
586	Double Cut-off Saw----	8′ x 6′	2 to 5	3,200	3,700	190	**Berlina**

WILLIAMSPORT MACHINE CO.'S

No. 2 IMPROVED DOUBLE CUT-OFF SAW.

The frame is heavy and consists of a hollow cylinder bed bolted to the sides. The carriage is all iron and steel, with gauges carefully fitted, and travels on ball bearings running in raceways faced with steel to prevent wear. No. 2 machine is provided with one bevel rip gauge, two miter gauges and cut-off gauges. The head blocks are gibbed to the bed, one being adjustable by hand-wheel. Boxes carrying the arbors are connected, and rise and fall by means of a crank, and have independent adjustment for lining up saw with carriage. An extending bracket connects pulley with adjustable head block, so that they adjust simultaneously for cutting different lengths. Cross bars are adjustable and should be clamped close to saws. Arbors can be arranged to carry Dado Heads when ordered. All machines cut 4″ thick; length and width shown in schedule; two 16″ saws, 1¼″ hole, furnished. Countershaft has T. & L. (self-oiling) pulleys, 12″ x 6¼″; speed, 600. Floor space, 5′ x 9′; horse-power, 5 to 7.

			Boxed for Export.			
Fig.	Size.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
587	26″ wide x 6′ 6″ long.	2,000	2,400	150	**Berretta**
588	36″ " x 6′ 6″ "	2,200	2 600	150	**Berroga**
589	48″ " x 6′ 6″ "	2,500	2,900	150	**Berruntic**
590	26″ " x 8′ "	2,200	2,600	150	**Bertag**
591	36″ " x 8′ "	2,400	2,800	150	**Bertifus**
592	48″ " x 8′ "	2,700	3,100	150	**Bertone**

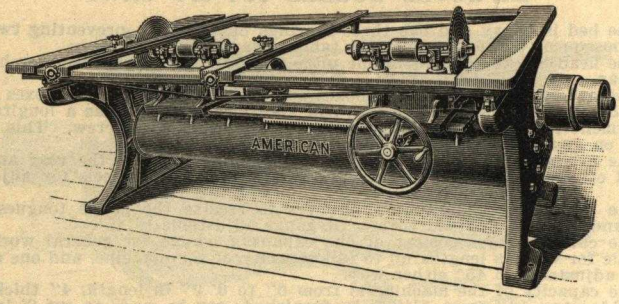


Fig. 593 Williamsport No. 1 Double Cut-off Saw.

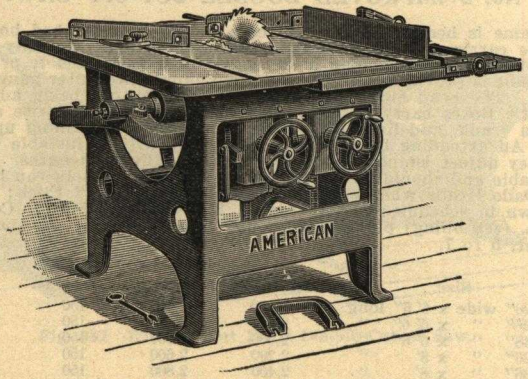


Fig 599 Clement Double Saw Bench.

WILLIAMSPORT MACHINE CO.'S

No. 1 IMPROVED DOUBLE CUT-OFF SAW.

The frame is heavy and consists of a hollow cylinder bed bolted to the sides. The carriage is all iron and steel, with gauges carefully fitted, and travels on ball bearings running in raceways faced with steel to prevent wear.

No. 1 is similar to No. 2, described on preceding page, excepting wide table at the left side is omitted and the arbor boxes are not adjustable vertically except for lining up the saw, and no ripping or miter gauges are furnished. All machines cut 4" thick; length and width shown in schedule; two 16" saws, 1¼" hole, furnished. Countershaft has T. & L. (self-oiling) pulleys, 12" x 6¼"; speed, 600. Floor space, 5' x 9'. Horse-power, 5 to 7.

Fig.	Size	Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
593	26" wide x 6' 6" long.	1,700	2,000	150	**Bertradis**
594	36" " x 6' 6" "	1,900	2,200	150	**Bertrivole**
595	48" " x 6' 6" "	2,200	2 500	150	**Bertroccus**
596	26" " x 8' "	1,900	2,200	150	**Bertucker**
597	36" " x 8' "	2,100	2,400	150	**Bertuding**
598	48" " x 8' "	2,400	2,700	150	**Bertugo**

F. H. CLEMENT CO.'S

IMPROVED DOUBLE SAW BENCH.

Adapted to pattern, furniture, sash and door and jobbing shops; frame is cast in one piece and planed on top to receive the table; arbors are hard steel, 1¼" in diameter, with ground journals and self-oiling boxes; arbor yokes pivot to the frame at the rear and adjust independently by hand-wheel and screw in front; table, 44" x 48", is iron planed true and hand scraped; two cut-off gauges run in slots and may be yoked together for long stock; a tilting rip gauge runs on a graduated track which is adjustable to the saw; miter gauge is graduated; a 10" saw projects 2" above table and two 16" saws with 1⅛" hole are sent. Countershaft has T. & L. (self-oiling) pulleys, 10" x 6¼"; speed, 600.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
599	Dble. Saw Bench	4' 3" x 8'	3 to 5	1,300	1,700	62	**Besacot**
600	End stop C. O. Gauges in place of regular, extra						**Beseltig**

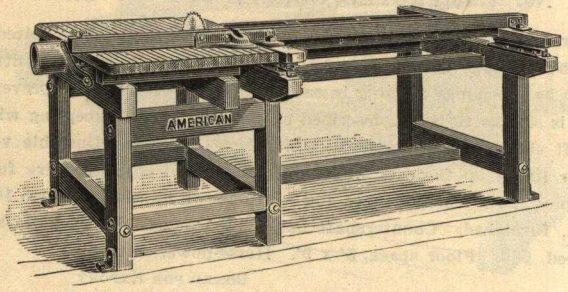


Fig. 601 Williamsport Sash and Door Cut-off Saw.

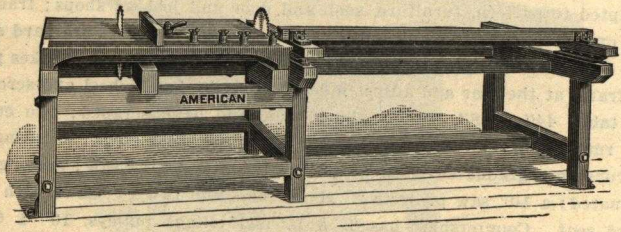


Fig. 6011 Combined Rip and Cut-off Saw.

WILLIAMSPORT MACHINE CO.'S

SASH AND DOOR CUT-OFF SAW.

A moderate priced and easy operating saw for cutting off lumber. The frame is made of hard wood; the tracks, gauges and connected saw arbor boxes are of iron; the arbor is steel. The carriage, on which is placed the stock to be cut off, moves on an improved system of ball bearing which makes it an easy carriage to operate. The table is 28" wide, 50" long; distance from floor to top of table, 34". The carriage is 24" wide, 60" long. This machine will cut off 24" wide up to 5' in length, but can be made to cut longer or wider at additional cost.

A 14" saw is furnished, which extends 4" above the table. A 24" saw can be used. Hole in saw, 1⅛". Also furnished with adjustable gauge and countershaft. T. & L. (self-oiling) pulleys, 10" x 5"; speed, 625.

Pulley on the arbor is 5" in diameter, 5" face; speed, 2,500.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
601	Complete	8' x 5'	5 to 6	600	1,000	126	**Besoming**

AMERICAN

COMBINED RIP AND CUT-OFF SAW.

The Frame is of hard wood, carefully fitted and firmly bolted, making a very substantial machine.

The Ripping Table is on the left hand side, the front part is iron, having four T slots, fitted with four adjustable roller stops. These can be moved to the right of the gauge and saw, when using the table for ripping. The gauge is adjustable; stock 26" wide by 4½" thick can be ripped.

The Cutting-off Carriage is 6' 6" long, operated on ball bearings and moves very easily. Will cut 1" stock 24" wide, narrower stock 4½" thick can be cut. The distance between the rip and cross cut saws is 32½", but stock 48" long can be cut by raising the wooden table at the rear of the rip saw and removing the saw and gauge. The adjustable roller stops allow four pieces of different lengths to be cut without changing the stops.

This machine is also built as a cutting-off saw only, by leaving off merely the rip saw and gauge.

The Arbor is of steel, running in babbitted boxes, the pulley on arbor is 4½" diameter by 5" face.

We furnish a 14" rip and 14" cross cut saw, 1⅜" hole (saws up to 24" diameter can be used), also countershaft; T. & L. (self-oiling) pulleys, 12" x 6"; speed, 560.

Fig.	Style	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
6011	Complete Machine	11' x 5'	5 to 6	700	1,100	62	**Besooth**
6012	Cut-off Saw only	11' x 5'	5 to 6	700	1,100	62	**Besopic**

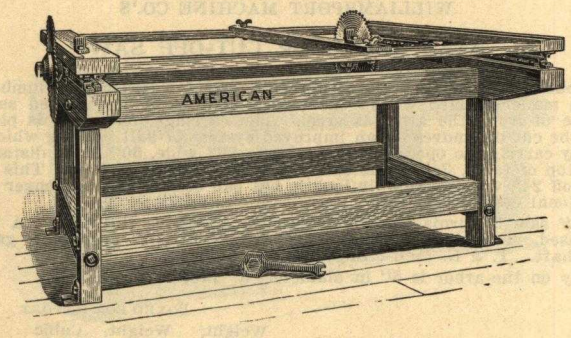


Fig. 603 Williamsport Wood Frame Double Cut-off Saw.

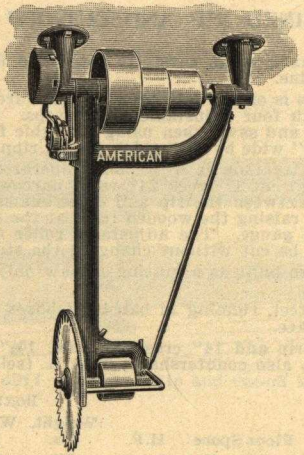


Fig. 604 Houston Heavy Swing Saw.

WILLIAMSPORT MACHINE CO.'S

WOOD FRAME DOUBLE CUT-OFF SAW.

Has sliding table on ball bearings, which is very easy to operate. Table is 69" long, 58" wide, will cut off 5' in length, 24" wide. Minimum distance between saws, 9½". Each machine is furnished with two 16" saws, which project 4" above the table; hole in saw at end of arbor, 1¼"; hole in saw on movable collar, 3⅛". Can be built to cut longer or wider if specially ordered. Pulley on arbor, 6" x 6"; speed, 1,800. Countershaft supplied as an extra has T. & L. (self-oiling) pulleys, 10" x 6"; speed, 600.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
602	With Counter	6' 6" x 4' 9"	6	575	775	106	**Besultum**
603	Without Counter	6' 6" x 4' 9"	6	400	600	106	**Beta**

LEVI HOUSTON CO.'S

HEAVY SWING SAW.

Specially adapted for cutting off heavy timber; perfectly counter-balanced. Frame is strong and rigid, cast in one piece with a cored center and will stand great tortive strain. The shaft on which the frame swings is stationary and set screwed into hangers.

The driving pulley and the large pulley on counter which drives the saw arbor are fastened together on a self-oiling sleeve. Loose pulley has self-oiling bushing.

Cut shows right hand machine hung from ceiling. Regular length from base of hangers to center of arbor, 7' 2"; can be made any length (at extra price) and in different positions, as per schedule. Each machine supplied with 36" saw, 1⅝" hole. T. & L. (self-oiling) pulleys, 12" x 8"; speed, 420; floor space, 1' 5" x 5' 2"; horse-power, 3 to 4.

Fig.		Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
604	To hang from ceiling, right hand	1,400	2,000	90	**Betail**
605	To hang from ceiling, left hand	"	"	"	**Betokes**
606	To hang from wall, right hand	"	"	"	**Betong**
607	To hang from wall, left hand	"	"	"	**Biblo**
608	To work under table, right hand	"	"	"	**Bidet**
609	To work under table, left hand	"	"	"	**Bigame**

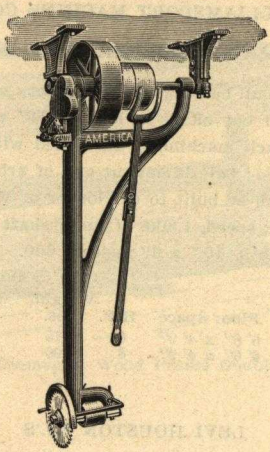


Fig. 610 Houston Swing Saw.

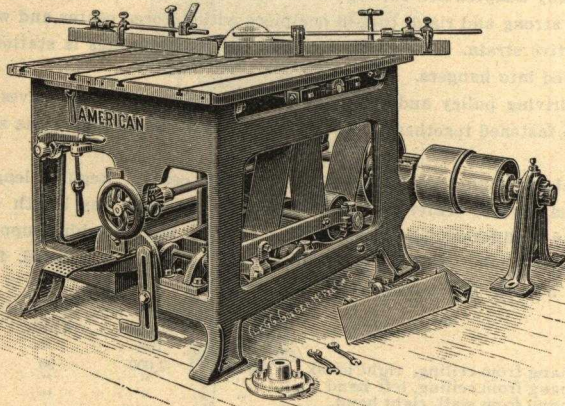


Fig. 617 Rowley & Hermance No. 7½ Combination Saw and Dado Machine.

LEVI HOUSTON CO.'S

MEDIUM SWING SAW.

A perfectly counter-balanced swing saw. Frame is strong and rigid; cast in one piece with a cored center and will stand great tortive strain. The shaft on which frame swings is stationary and set screwed into hangers.

The driving pulley and the large pulley on counter which drives the saw arbor are fastened together on a self-oiling sleeve. Loose pulley has self-oiling bushing.

The hangers are arranged to adjust vertically about 4" by means of screws to take up the wear of saw; this obviates the necessity of cutting the belt.

Cut shows right hand machine hung from ceiling. Regular length from base of hangers to center of arbor, 7' 2"; can be made any length (at extra price) and in different positions, as per schedule. Each machine supplied with 14" saw (20" largest saw recommended), 1⅛" hole. T. & L. (self-oiling) pulleys, 10" x 5"; speed, 500; floor space, 4' x 1' 9"; horse-power, 1 to 2.

Fig.		Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
610	To hang from ceiling, right hand	600	960	34	**Bigarrer**
611	To hang from ceiling, left hand	"	"	"	**Bigiose**
612	To hang from wall, right hand	"	"	"	**Biglia**
613	To hang from wall, left hand	"	"	"	**Bilan**
614	To work under table, right hand	"	"	"	**Bileter**
615	To work under table, left hand	"	"	"	**Bilico**

ROWLEY & HERMANCE CO.'S

No. 7½ COMBINATION SAW AND DADO MACHINE.

Adapted for cutting off, ripping, miter and bevel sawing, dadoing, etc. The travel of the saw produces only a very slight movement of the tightener frame. The saw may be brought forward a distance of 23" by means of a foot-treadle; carriage carrying saw runs on ball bearings. Table is 3' x 4'. The right hand table is pivoted to the frame and may be swung upward, while the left hand table is arranged to slide outward and so constructed as to always keep the table parallel. Ripping gauge may be set at any angle. The cross-cut gauges are instantly clamped to the table, and are so arranged that by loosening two nuts with the stationary wrenches they are at once changed from stationary to sliding gauges, and may be set at any angle not exceeding 45°. The gauges can be reversed so that the saw will force the board against the face of the gauge if desired. A sliding stop is used to prevent the saw from going entirely back when it is desired to make short cuts. Will cut 4" thick, and will cut through a 1" board 21" wide. Arbor has 3" vertical adjustment. With our latest improved compound binder we get more power and the foot treadle is one-third easier to operate than on any similar machine. The relative tension of the endless belt to the carriage is the same throughout its entire travel. We furnish with each machine one 16" saw, 1¼" hole, one endless 6" belt, and the necessary wrenches. Built also as plain cut-off saw without gauges. Furnished with or without dado head, as ordered. The dado head is expanding, is 8" in diameter, will cut a maximum depth of ⅞". Five sets of cutters with each head, from ¼" to ¾" in width, in any variations desired. The head may be expanded to take in cutters 1¾" in width. Countershaft has T. & L. (self-oiling) pulleys, 10" x 6"; speed, 850.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
616	Without Dado Head	5' 9" x 4'	2 to 3	1,450	1,800	60	**Bimbo**
617	With Dado Head	5' 9" x 4'	2 to 3	1,450	1,800	60	**Binare**
618	As Cut-off Saw only	5' 9" x 4'	2 to 3	1,450	1,800	60	**Binaston**

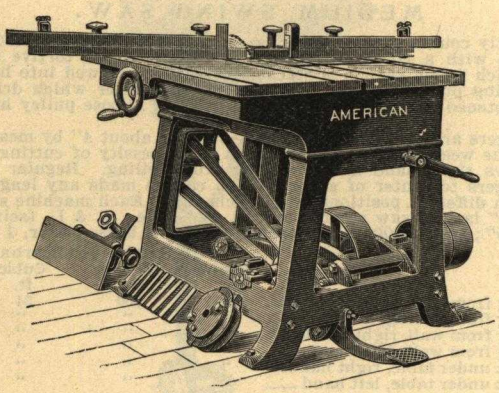


Fig. 620 Williamsport No. 1 Combination Saw and Dado Machine.

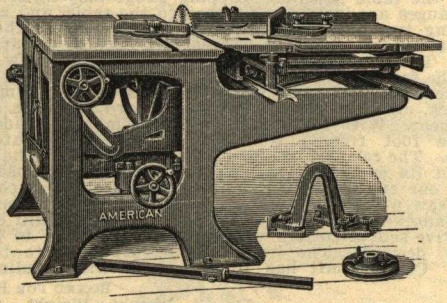


Fig. 622 Houston Combination Saw and Dado Machine.

WILLIAMSPORT MACHINE CO.'S

No. 1 and No. 2 COMBINATION SAW AND DADO MACHINE.

Intended for ripping, sawing at any angle to 45°, plowing, grooving, dadoing, etc. The iron table tops are laid out in degrees for cutting at any angle desired to 45°. Size of table, 3′ x 3′ 3″. The arbor is made of steel, and runs in babbitted boxes in a strong yoked carriage, fitted with rollers that travel on ways, which reduces the friction. The ways are fitted to the main frame of the machine and are raised or lowered by worm and worm wheel, operated by the crank at front of machine. The hand-wheels are for adjusting the sliding tops apart for using dado head, changing saw, etc. Friction device for moving the carriage is operated by the foot treadle and brings it forward at any rate from 5′ to 100′ per minute. By moving the treadle 1-16″, connects the power and brings the carriage forward. By removing the pressure from the treadle the power is disconnected, the carriage is returned.

The No. 2 is similar to the No. 1 except that the carriage is operated by placing the foot on the treadle and bringing the saw carriage forward at the will of the operator, thus enabling the operator to regulate the feed for dadoing through knots, or cutting cross-grained lumber, etc. By removing the pressure from the treadle, the saw carriage is returned to its position by the swing-tightener, which answers a double purpose; one is that it draws back the carriage to its proper position, and the other is that it keeps the driving belt always tight.

With each machine we furnish an endless driving belt, 12″ saw, 1⅛″ hole, and gauges shown. Saw travels 15″, cuts up to 4″ thick. Countershaft has T. & L. (self-oiling) pulleys, 8″ x 4″; speed, 900. Expanding dado head as an extra, is 8″ in diameter, with five sets of cutters, 5-16″ to 1¾″ wide; cuts ¾″ deep.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, Cubic lbs.	ft.	Code
6181	No. 2, without Dado Head.	3′ x 4′ 4″	3	900	1,200	55	**Binlares**
6182	No. 2, with Dado Head---	3′ x 4′ 4″	3	900	1,200	55	**Binman**
619	No. 1, without Dado Head.	3′ x 4′ 4″	3	900	1,200	55	**Binnatig**
620	No. 1, with Dado Head---	3′ x 4′ 4″	3	900	1,200	55	**Bisket**

LEVI HOUSTON CO.'S

NEW COMBINATION SAW AND DADO MACHINE.

Adapted for cutting miters and bevels, cross cutting, ripping and dadoing. The saw arbor has vertical adjustment, saw can be thrown to any angle up to 45°. Left hand table is hinged at rear end and swings up. It also has lateral adjustment. The right hand table is provided with combination roller device with stop on each side. This table also has lateral adjustment. A compensatory idler is attached to frame to give proper tension to belt. The frame is cast in one piece and the traveling table moves easily and will make a straight cut 24″ wide with a 14″ saw. The left hand table is 23″ wide from the saw out, 40″ long. The right hand table is 35″ long from the saw out, 27″ wide. The dado head cuts to ½″ deep, and will expand to take bits up to 2″ wide. We furnish with each machine one 14″ cross-cut saw, with 1⅛″ hole. Saw extends 3½″ above table. Countershaft has T. & L. (self-oiling) pulleys, 8″ x 6″; speed, 800.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, Cubic lbs.	ft.	Code
621	Without Dado Head--	5′ 6″ x 6′	2 to 3	1,400	1,950	105	**Bismuth**
622	With Dado Head-----	5′ 6″ x 6′	2 to 3	1,400	1,950	105	**Bison**

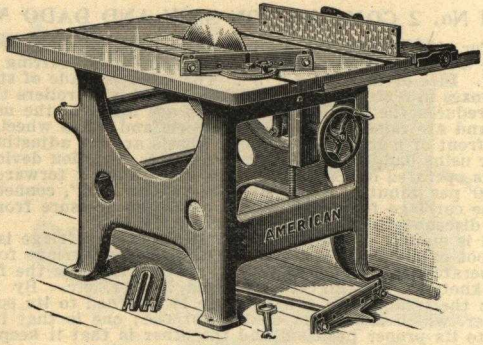


Fig. 623 Clement No. 2 Combination Saw.

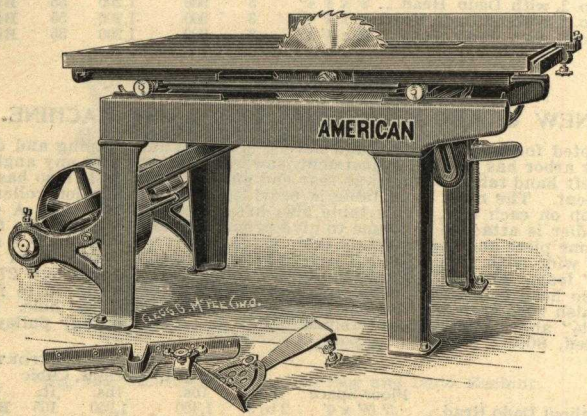


Fig. 627 Williamsport No. 4 Combination Saw and Dado Machine.

F. H. CLEMENT CO.'S

No. 2 COMBINATION SAW BENCH.

Adapted to general and job sawing to accurate lines; frame is cast in one piece and planed on top to receive the table; arbor is hard steel, 1⅜" in diameter, with one plain and one corrugated journal and self-oiling boxes; arbor yoke pivots to the frame at the rear and adjusts vertically by screw and hand-wheel in front; table, 38" x 50", is of iron planed true and hand scraped; two cut-off gauges run in slots and may be yoked together for long stuff; a tilting rip gauge runs on a graduated track which is adjustable to the saw; miter gauge is graduated; a 12" saw projects 2¼" above table and 18" saws may be used; a 16" saw with 1¼" hole furnished; also countershaft. T. & L. pulleys (self-oiling), 12" x 6¼"; speed, 600. Boring attachment is furnished at an extra charge.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, Cubic lbs.	ft.	Code
623	Without Boring Att	4' 3" x 8'	3 to 5	1,200	1,450	62	**Bissac**
624	With Boring Att.	6' 6" x 8'	3 to 5	1,300	1,550	65	**Bissection**
625	End Stop C. O. Gauges, in place of regular, extra						**Bitume**
626	Self-centering Chuck, according to size, extra						**Blamato**

WILLIAMSPORT MACHINE CO.'S

No. 4 COMBINATION SAW AND DADO MACHINE.

Intended for ripping, cross-cutting, mitering, dadoing, plowing, grooving, etc. All of iron and steel with the exception of the table, which is glued up of alternate strips of ash and birch, and secured underneath with heavy iron battens. The table moves on differential rollers, which cannot get out of position, as they are connected by a light movable carriage underneath the main table.

Swinging frame carries the saw arbor and is hung on the boxes of the countershaft so that the belt always remains the same length.

The saw is raised and lowered by means of the hand-wheel.

By removing the ripping gauge and substituting the cut-off or mitering gauge, and unlocking the table, the machine is converted into a complete cut-off or miter saw table.

Machine will cut off 25" wide, and rip 18" wide, 4" thick.

Table is 34" wide by 51" long.

With each machine we furnish one 16" rip saw; one 16" cross-cut saw, 1⅛" hole; one ripping gauge, one miter gauge and one cut-off gauge. All gauges have an independent adjustment for keeping them in line with the saw.

We can furnish expanding dado head as an extra, with five sets cutters, 5-16" to 1¾", cuts ¾" deep.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 5"; speed, 650.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, Cubic lbs.	ft.	Code
627	Without Dado Head	6' 6" x 3' 8"	2 to 3	900	1,200	55	**Blanc**
628	With Dado Head	6' 6" x 3' 8"	2 to 3	900	1,200	55	**Blaterer**

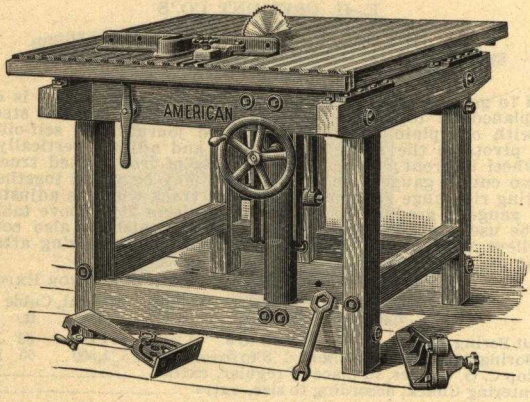


Fig. 629 Williamsport No. 5 Combination Saw and Dado Machine.

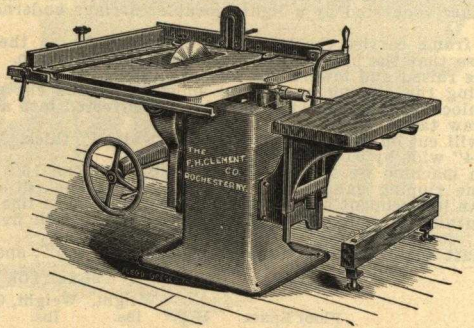


Fig. 633 Clement No. 1 Variety Saw Bench with Boring Attachment.

WILLIAMSPORT MACHINE CO.'S

No. 5 COMBINATION SAW AND DADO MACHINE.

For cutting off, ripping, mitering and dadoing, etc. The frame is made of hard wood, accurately mortised and firmly bolted. The swing, on which is placed the saw arbor, is adjustable, so that the saw can always be kept parallel with the table, and is raised and lowered by the hand-wheel, by which the saw or dado head can be adjusted to suit the different kinds of work. The table travels on ball bearings, it may be made stationary by the lever shown at left hand side of the machine, is 44" wide and 56" long. This machine will cut off up to 24" in width. Pulley on the arbor is 4" in diameter, 5" face; speed, 2,500. The arbor is provided with a cone collar system, and will receive saws having hole 1" up to 1⅝" in diameter and any intermediate size. Distance from floor to top of table is 35". A 14" saw extends 4" above the table. The steel expanding dado head cuts ¾" deep; five sets cutters 5-16" to 1¾"

Each machine is furnished with one 14" cut-off and one 14" rip saw, gauges shown in illustration, and countershaft, with T. & L. (self-oiling) pulleys, 10" x 5"; speed, 500. Dado head extra.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
629	Without Dado Head	4' x 6' 6"	2 to 3	600	850	60	**Blendex**
630	With Dado Head	4' x 6' 6"	2 to 3	600	850	60	**Blithe**

F. H. CLEMENT CO.'S

No. 1 VARIETY SAW BENCH WITH BORING ATTACHMENT.

Adapted to accurate sawing and boring. Frame is cast in one piece with slot for belt to drive through floor or horizontally. Iron table, 36" x 44", is planed and hand scraped and tilts to 45° on a vertical slide. Slide adjusts 5" on gibbed ways by screw and hand-wheel. Arbor is hard steel, 1¼" in diameter, with one plain and one corrugated journal and self-oiling boxes. Two cut-off gauges run in slots and may be yoked together for long work. Rip gauge runs on long graduated track adapted for both sides of saw. Miter cut-off gauge is graduated. Capacity, 20" wide, 3" thick; 8" saw projects 1¼" above table and 14" saw may be used: 12" saw with 1" hole is furnished. Boring table is 14" x 28", glued up of kiln dried hard wood, and moves 6" on horizontal gibbed ways. Table bracket moves vertically 8" by screw and crank. Depth gauge is secured to the table plate. An iron stop or fence is supplied. Plain bit socket with ½" hole and set screw usually supplied, but no bits. Self-centering chuck extra. Countershaft can be below or at rear of machine; has T. & L. (self-oiling) pulleys, 8" x 5¼"; speed, 750.

Fig.		Floor Square	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
633	With Boring Attachment	5' x 7'	2 to 4	1,050	1,400	56	**Bobinera**
634	Self-centering Chuck, according to size, extra						**Bobinet**
635	End Stop C. O. Gauges, in place of regular, extra						**Boboka**
636	Jointing Head with two knives, extra						**Bocal**

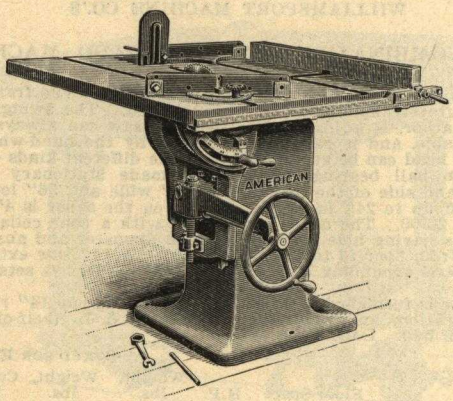


Fig. 637 Clement No. 1 Variety Saw Bench.

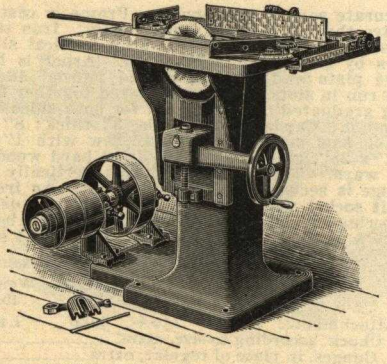


Fig. 638 Clement No. 0 Saw Bench.

F. H. CLEMENT CO.'S

No. 1 VARIETY SAW BENCH.

Adapted to accurate sawing in all kinds of wood working shops; frame is cast in one piece with slot for belt to drive through floor or horizontally; the table, 36" x 44", is planed and handscraped, and tilts to 45° on a vertical slide by means of an accurately graduated segment and clamp screw; slide adjusts 5" on gibbed ways by screw and hand-wheel; arbor is hard steel, 1¼" in diameter, with one plain and one corrugated journal and self-oiling boxes; two cut-off gauges run in slots, and may be yoked together for long work; rip gauge runs on a long graduated track adapted for both sides of saw; miter cut-off gauge is graduated: capacity, 20" wide, 3" thick; 8" saw projects 1¼" above table and 14" saws may be used; a 12" saw with 1" hole is furnished; countershaft can be below or at rear of machine.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 5¼"; speed, 750.

Also built with boring attachment, see Fig. 633.

				BOXED FOR EXPORT			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
637	No. 1 Variety Saw	3' 6" x 7'	2 to 4	950	1,200	56	**Bocarding**
6371	End Stop C. O. Gauges in place of regular, extra						**Bodine**

F. H. CLEMENT CO.'S

No. 0 SAW BENCH.

Adapted to small accurate work of all descriptions; frame is cast in one piece with slot for belt; table, 26" x 30", is planed true, hand scraped and bolted firmly to a vertical slide; slide is gibbed to frame and adjusted 4" by screw and hand-wheel; arbor is hard steel, 1⅛" in diameter, with one plain and one corrugated journal and self-oiling boxes; two cut-off gauges run in slots and may be yoked together for long work; a tilting rip gauge runs on a graduated way which is adjustable to the saw; miter cut-off gauge is graduated; an 8" saw projects 1¾" above the table, and saws 6" to 10" in diameter may be used; 10" saw with 1" hole is furnished; countershaft may be separate when ordered.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 3¾"; speed, 750.

				BOXED FOR EXPORT			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
638	Counter attached	3' 4" x 3' 9"	1 to 3	650	800	28	**Bodrizer**
639	Counter separate	3' 4" x 3'	1 to 3	650	800	28	**Boja**

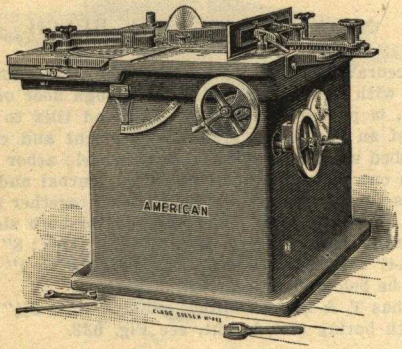


Fig. 6390 Clement Universal Saw Bench.

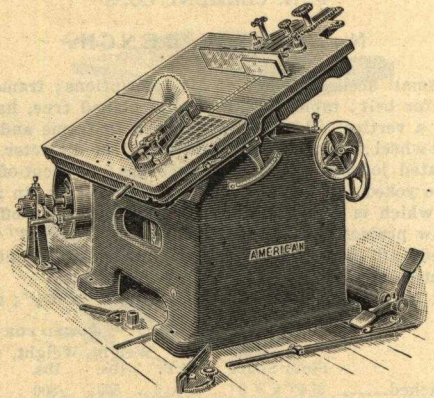


Fig. 6390 Clement Universal Saw Bench.

F. H. CLEMENT CO.'S

UNIVERSAL SAW BENCH,

A Machine of the Highest Grade.

Heavy box frame cast in one piece with three points of bearing on the floor, with base area 33" x 39".

EXTRA RIGID swinging yoke revolving on a gudgeon, 7" diameter, with side bearing shoulders 9½" diameter, and carrying two cast steel arbors 1¼" diameter with self-oiling boxes; operated by an extra heavy worm wheel and double quick worm.

TABLE 45" long and 39" wide, divided in two sections, one 17" wide, 45" long, and one 22" wide, 45" long; narrow table moves on friction rolls and can be adjusted away from the main table 2½".

SPLITTING GAUGE moves over the entire width of main table to 24" wide and tilts to 45°, and also swings around to a horizontal angle for cutting core boxes; has adjustment to and from saw by means of taper pins in table, and also micrometer adjustment by hand wheel and fine toothed cut rack; it can be shifted to left hand side of saw when wanted.

CUT-OFF GAUGE on rolling table section, accurately stopped at 30, 45, 60 and 90 degrees by taper pin and clamped at any intermediate point, both sides of a right angle.

SUPPLEMENTARY CUT-OFF GAUGE is fitted to right hand table section by a sliding tongue, and a connecting yoke attaches it to the miter gauge for long work. An extension of the main miter gauge with receding stop facilitates stock or quantity sawing.

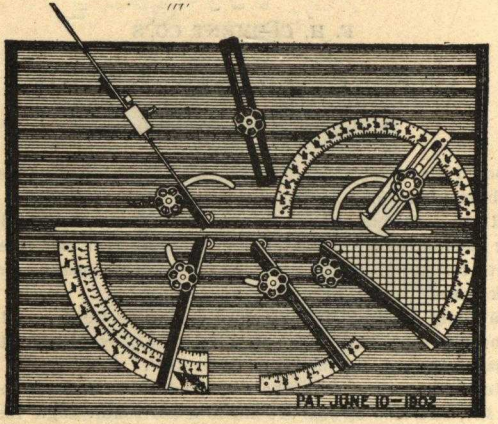
ENTIRE TABLE swings to 45° or less by means of an adjusting screw and arm, indexed by accurately graduated arc on frame.

ALL DETAILS in which wear would produce inaccuracy are made adjustable to take up the slack.

WE FURNISH with each machine countershaft with foot pedal, or lever shifter, two 16" saws, cut-off gauge, together with an extension small miter gauge in main table and connecting yoke for the two, splitting gauge, and necessary wrenches.

COUNTERSHAFT with self-oiling loose pulley and boxes, shifter shaft and foot lever. T. & L. pulleys, 10" x 6"; speed, 650.

			Boxed for Export			
	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
6390	4' x 6', with ctr.	3 to 4	2,100	2,600	72	Bojego



Top of Table.

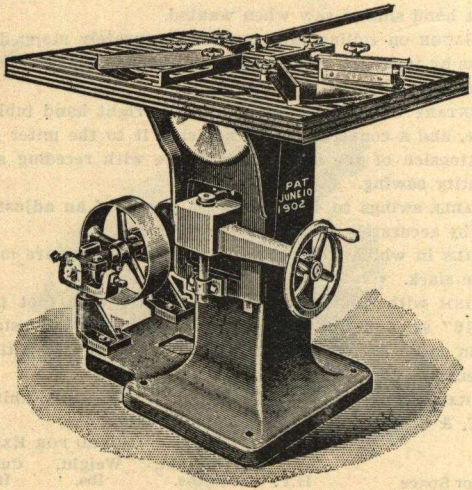
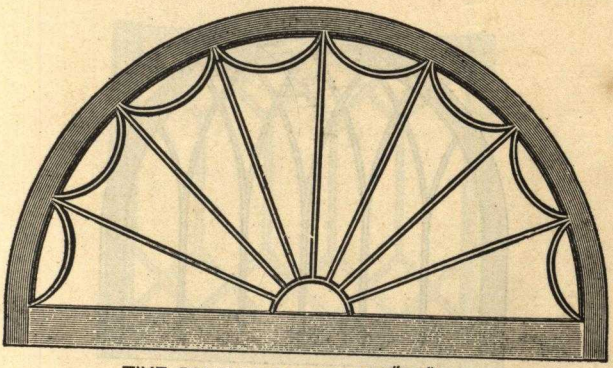


Fig. 6391 Lyndon Universal Miter Saw Bench.



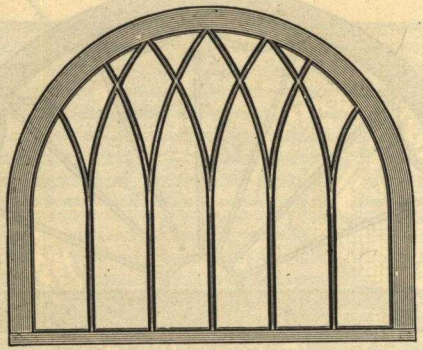
TIME CONSUMED 1 SASH 48″x24″-35 MIN.

LYNDON UNIVERSAL MITER SAW BENCH.

Pat. June 10, 1902.

Designed especially for the making of Queen Anne or cut-up sash, yet is very valuable in furniture, chair and pattern work. By a system of patented graduations placed upon sliding table in connection with adjustable gauges, as shown in cut on opposite page, we make it possible to secure any desired angle or miter which may be necessary in the making of cut-up sash, regardless of irregularities or how obtuse or acute the angles may be, entirely dispensing with miter boxes and other devices and at all times avoiding the necessity of laying out the sash to be made, in order to determine the correct angles. The muntin bars are cut to the correct angle and length with this machine and the coping is done with machine shown upon the following page. The table is of wood, built up of cherry and birch, 28″ x 36″. Gauges are made of aluminum, all bearings are self-oiling, with return channels, countershaft self-contained (or independent, as desired), with adjustment of 2″ to take up slack in belt. Capacity, 300 to 800 diamond lights per day, including all of the time necessary for cutting bars, coping and nailing in sash frame. Circular showing work of this machine upon application. We furnish with each machine one 11″ hollow ground miter saw, 1″ hole, wrenches and countershaft with T. & L. pulleys (self-oiling loose), 8″ x 3¾″; speed, 750.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
6391	With Counter attached	3′ 4″ x 3′ 9″	1 to 2	600	750	28	**Bokile**
6392	With Separate Counter	3′ 4″ x 3′	1 to 2	600	750	28	**Bokimer**



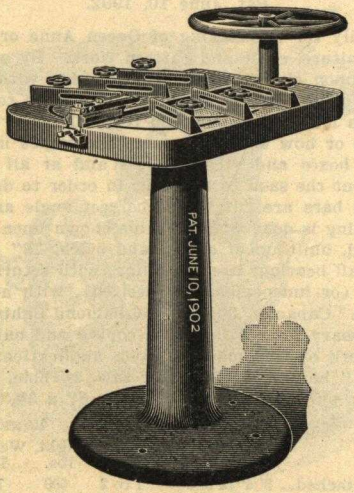
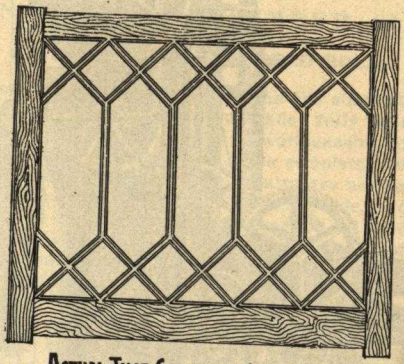


Fig. 6393 Lyndon Sash Coping Machine.



ACTUAL TIME CONSUMED IN SETTING MACHINES and BUILDING IN

2 Sash 30 x 24 45 Min.

LYNDON SASH COPING MACHINE.

Patented June 10, 1902.

Designed especially for coping the muntin bars in the making of Queen Anne or cut-up sash, and is used in connection with the Lyndon Universal Saw Bench illustrated on page 84. The machine consists of a column upon which is mounted the work table which supports the gauges and coping head. The coping head, which carries two knives (right and left), formed to exact outline of mold on muntin bars, is attached to a horizontal bar or rack traveling in a slotted way in table and is brought forward to the cut by means of hand-wheel, as shown. Gauges are six in number, giving the right and left hand angles for stile, rail and bar cuts, without resetting. We claim this a very superior machine, inasmuch as no resetting of gauges is necessary in building in a sash, its adaptability to coping circular and short muntin bars, adjustable coping head which takes care of varying or irregular sash sticking, and the ease with which it is operated. We furnish with each machine one set of coping knives formed to any desired style of sticking. In ordering machine always send sample of muntin bar and rail.

			Boxed for Export		
Fig.	Floor Space	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
6393	22″ x 28″	250	300	15	Bokladis

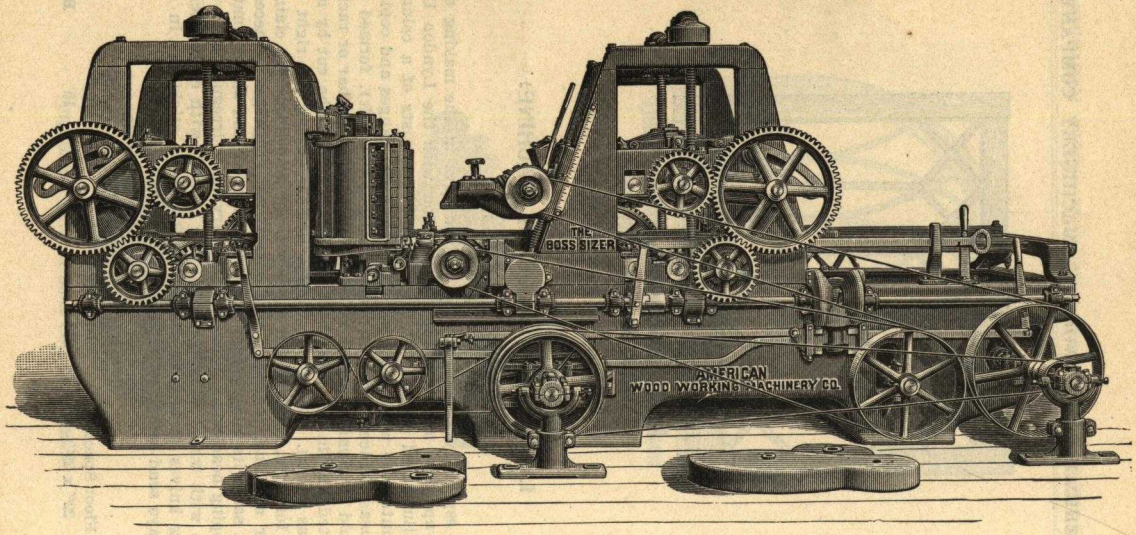


Fig. 640 Glen Cove 8-Roll Boss Sizer.

GLEN COVE BOSS TIMBER SIZER.

WITH SIX AND EIGHT FEED ROLLS.

The heaviest and most powerful as well as the simplest and most easily handled machine of its class offered to the trade; fully up to date in design, simple in construction, with all material and workmanship of the best. Parts liable to breakage reduced to a minimum, and a complete system of numbering and lettering applied, and available when repairs are necessary.

All of the adjustments are easily and quickly made, and those necessary for a change from one class of work to another are all made from the operator's positions at the side or end of the machine, and so quickly and easily as to make this machine capable of covering a very large range of work, from surfacing four sides (full capacity of machine) to car sills, flooring, decking, or any similar work.

THE FRAME is very substantial; sides heavily ribbed; cross girts all planed to a seat and strongly bolted, and all the upper work applied in a way to add strength and stability.

THE CYLINDERS are made from crucible steel forgings, slotted on all four sides, and have extended lip chip breakers. The journals are ground and the pulleys are fitted to a taper and held by nut. Heads and knives are slotted for ¾" bolts.

THE SIDE SPINDLES and jointer heads hammered crucible steel. The heads are slotted and may be removed, and matcher or other styles of heads substituted.

Cylinder and side spindle boxes are all large, babbitted and self-oiling, and heavily yoked together to insure their perfect alignment. The top cylinder yoke is supported on uprights and clamped firmly in position by means of lever. The lower cylinder yoke is held in planed ways, and may be drawn out to one side for easy access in sharpening and setting, and is firmly clamped when back in position. It is also provided with necessary adjustment for change of cut.

THE SIDE YOKES or boxes are supported on three heavy cross bars, and by means of attached levers, operating wedges, these boxes are clamped firmly in position.

THE CHIP BREAKER for top cylinder is in four sections, and so constructed as to allow for an independent yield of 1¾" on each section.

THE CHIP BREAKERS for side heads are made up of narrow sections, changeable and adjustable, held in a swinging frame in the shape of a hood. This is pivoted, and when the chip breaker weight is unhooked, may be swung clear of the head to admit of free access to the cutters. Exhaust pipe is readily attached.

The frame or slide holding the lower cylinder yoke is so formed as to make a complete hood for this head, carrying all chips out on the back of the machine, where pipe connections should be made.

THE FEED is very powerful; the rolls are geared at both ends, well geared

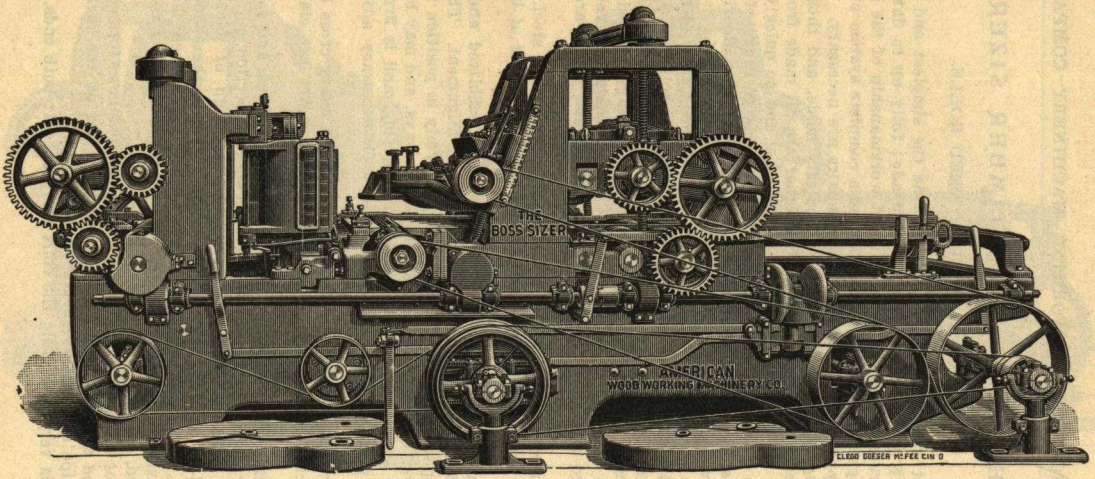


Fig. 643 Glen Cove 6-Roll Boss Sizer.

back to the two pinions that divide the labor. The first two top rolls are divided. All top rolls are independently weighted and rise and fall parallel with bottom rolls.

CONE FEED.—Machine is fitted with cone feed pulleys with friction clutch to stop and start the feed, three changes of feed being secured by shifting belt on cones, and three additional changes by exchange of cones on counter, giving feed of 25′, 32′, 42′, 44′, 53′ and 60′, respectively, per minute, with countershaft making 1,000 revolutions; or with cone pulleys and binders instead of clutch if desired.

All main boxes are self-oiling.

The adjustments are complete. The feed, as well as the power hoist, is handled from operator's position at the end and side of the machine. The power hoist is very effective, and being belted from main counter is available when feed is on or off.

The side rod that conveys the power to the several screws that raise and lower the upper cylinder and top rolls is in two sections, coupled by a clutch that may be disengaged, so that the rolls before the cut may be raised or lowered by power independently, to take care of stock of unusual variation in thickness. The change from slotted side heads to matcher heads requires only the removal of the top box, when the heads may be taken off and matchers substituted. Suitable top and side pressures and guides are provided for matching.

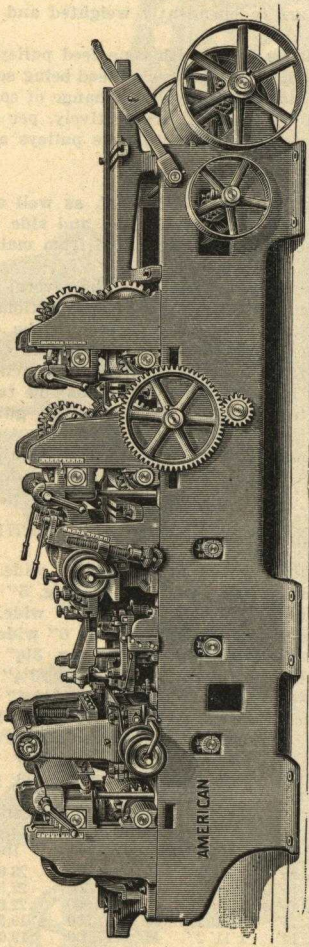
Standard machine includes regular heads and straight knives and necessary wrenches.

BELTING FOR EIGHT-ROLL MACHINE.

Two belts for top cylinder, each 20′ 3″ long, 6″ wide.
Two belts for bottom cylinder, each 16′ 9″ long, 5″ wide.
One belt for R. H. side spindle, 24′ 7″ long, 5″ wide, double.
One belt for L. H. side spindle, 24′ 7″ long, 6″ wide, double.
One belt for feed with large cone, 18′ 4″ long, 3½″ wide.
One belt for feed with small cone, 17′ 11″ long, 3½″ wide.
One belt for feed first to second pinion shaft, 11′ 4″ long, 4″ wide.
One belt for feed friction shaft, power hoist, 10′ 4″ long, 4″ wide.
For six-roll machine, feed belt, first to second pinion shaft should be 14′ 2″ long, 4″ wide.

Countershaft has T. & L. pulleys, 16″ x 10″; speed, 1,000.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
640	30 x 20, eight rolls	15′ 3″ x 11′ 2″	40	21,000	23 000	375	**Boldrone**
641	30 x 18, eight rolls	15′ 3″ x 11′ 2″	40	20,500	22,500	375	**Bolleret**
642	30 x 16, eight rolls	15′ 3″ x 11′ 2″	40	20.000	22,000	375	**Bomba**
643	30 x 14, six rolls	14′ x 11′ 2″	40	17,500	19,500	308	**Bombancy**
644	30 x 12, six rolls	14′ x 11′ 2″	40	17,000	19,000	308	**Bombarder**



Hoyt "New Series" Planers and Matchers, with Upper Cylinder Cutting First.

HOYT & BRO. CO.'S

NEW SERIES
PLANERS & MATCHERS AND TIMBER DRESSERS.

BUILT IN THREE WAYS.

1st. With Upper Cylinder Cutting First.

2d. With Lower Cylinder Cutting First.

3d. With Lower Cylinder Cutting First and with an Additional Lower Cylinder at Rear of Machine.

POINTS IN COMMON ON ALL MACHINES.—These machines are adapted for general planing mill use and are of the latest improved type, having all the essential elements of perfection in design, strength and durability. They are built in various sizes from 9" up to 30" in width and 8" or 12" thick, as indicated in the schedule on page 99. They will match from 2" to the full width of the machine and will dress as thin as ⅜".

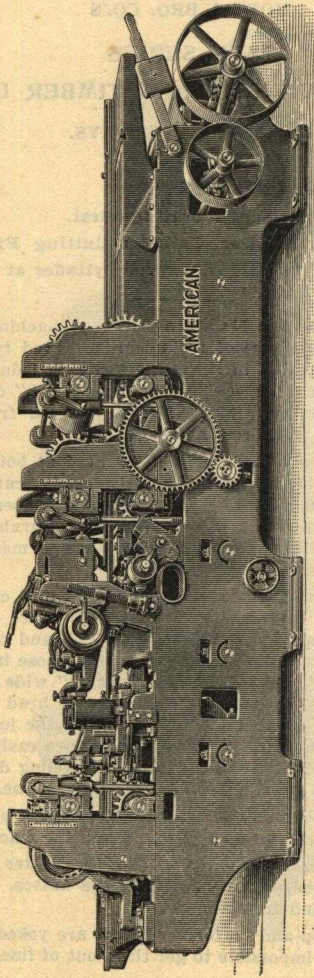
THE FEED consists of six 9½" feed rolls geared at both ends and having parellel lift. Solid or divided rolls are furnished, as indicated on page 99. The divided roll permits the feeding of unevenly sawed lumber or two boards of different thicknesses at one time. A center guide is furnished when ordered. The pressure for feed rolls is governed by springs, a method we have long used with marked success.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel, four-sided, lipped and slotted, belted at both ends. They are alike in detail and are interchangeable, having a cutting circle of 7½" and carrying a knife 4" wide. The journals are long and large in diameter, those in the machines 19" wide and under being 2¼", and in machines over 19" wide they are 2½", running in self-oiling boxes. The end play of the cutter head when working ceiling or other beaded work is cared for at the ends of the journals, where hard wood plugs run against the centers. These plugs are easily replaced in case of need. Both cutter heads have an independent leveling device whereby they can be quickly lined up to and with the bed of the machine.

THE PRESSURE BARS —The upper cutter head out-feed pressure bar is operated by hand wheels, which can be adjusted while the machine is in motion.

The top of the pressure bar is on a line with the center of the cutter head, leaving ample room for sharpening or setting the knives. This bar is made rigid and is adjusted to and from the cut.

THE BOXES for the top and bottom cylinders are yoked both in front and behind the cut, making it impossible to get them out of line. The upper cutter



Hoyt "New Series" Planers and Matchers, with Lower Cylinder Cutting First.

head yoke is clamped by hand levers, keeping it firmly in place without the use of a wrench. This clamping device provides for the quick correction of lost motion.

GEARING.—All gears of equal size are interchangeable, and can be reversed, the hubs being alike on both sides. ALL GEARS AND PINIONS ARE MOUNTED ON SHAFTS WHICH RUN IN BABBITTED BOXES.

THE MATCHER SPINDLES are made from the best steel, with long bearings, and are of large diameter, being 2" in the boxes and 1 13-16" where the heads go on. The matcher stocks are readily adjusted independently and the clamping device is positive and easy of access.

THE CHIP BREAKER for the side head has a hardened point, is adjustable to any desired cut and has weighted pressure.

THE CYLINDER PULLEYS are double flanged and set within ⅛" of the bearing, making it impossible to spring the journals.

Every piece or part of each machine has a number or letter stamped upon it, so that by simply giving the number or letter duplicate parts may be ordered by wire or mail.

We furnish with each machine two knives for each cylinder, one pair of patent matcher heads or jointer heads, as desired, and necessary wrenches.

Countershaft of No. 31 and No. 32 has T. & L. pulleys, 14" x 8"; No. 33 and No. 35, T. & L. pulleys, 14" x 10". For all the other machines the T. & L. pulleys are 16" x 10". Speed for all, 900. Loose pulleys self-oiling.

POINTS RELATING TO UPPER CYLINDER CUTTING FIRST.

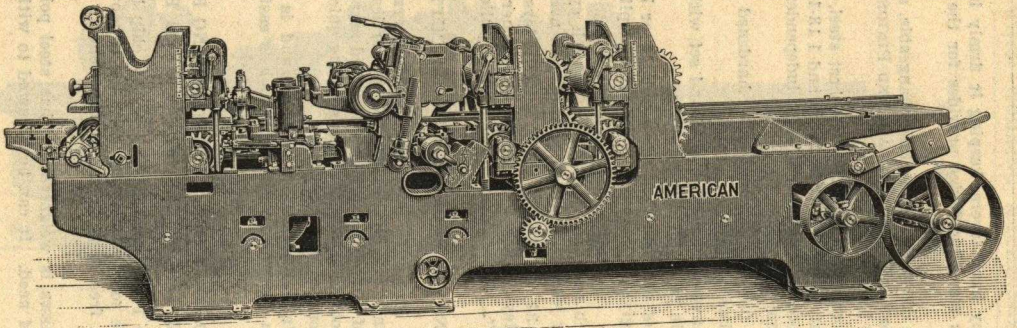
PRESSURE BARS AND PRESSURE BED FOR LOWER CUTTER HEAD.—Pressure bars are adjustable to and from the cut, as well as vertically, and can be removed without the use of a wrench. The pressure bed may be swung to either side of the machine by loosening two nuts, thus giving quick access for sharpening or setting knives on the lower head.

THE UPPER HEAD CHIP BREAKER is weighted and is adjustable to and from the cut. It has an inserted steel point, which is easily replaced in case of need.

POINTS RELATING TO LOWER CYLINDER CUTTING FIRST AND WITH ADDITIONAL LOWER CYLINDER (FIFTH HEAD).

CHIP BREAKERS AND PRESSURE BARS.—The top chip breaker as well as the top pressure bars are so arranged that they can be moved away from the cutting circle to allow a free scope of the knife extending 2" beyond the lip of the cylinder.

THE TOP CHIP BREAKER is weighted and has steel points, which can be easily replaced in case of need. It can be adjusted to within ⅛" of the cut-



Hoyt "New Series" Planers and Matchers, with Lower Cylinder Cutting First and with Additional Lower Cylinder (5th Head).

ting circle and remains in this relation even when the cylinder is taking any cut desired up to ¾"

THE LOWER HEAD PRESSURE BARS can be adjusted to allow the knife to extend 1" beyond the lip of the cylinder. The pressure rolls over the lower cylinder are hinged on separate yokes, but carried in the same frame that carries the top cylinder and chip breakers; they therefore do not have to be adjusted independently.

THE LOWER CYLINDER is placed in front of the top cylinder. It can be quickly drawn out for changing or sharpening the knives, and is easily adjusted from the side of the machine, as well as at the feeding-in end, while the machine is in motion, for the purpose of bringing the cut of the knife on a line with the rear pressure bar. The front lower cylinder bar, together with the lower feed rolls, are so arranged that by operating a lever at the front of the machine the cut of the under head may be changed as desired while machine is running, without altering the finished thickness of the material or disturbing the cutter head, and any desired amount of stock can be removed up to ¾". If so desired, the machine can be instantly adjusted for single surfacing without removing any of the belts.

POINTS RELATING ONLY TO MACHINE WITH ADDITIONAL LOWER HEAD.

FIFTH HEAD.—We also build these machines with two under heads, the first one placed before the upper cylinder, and the second head at the extreme rear of the machine after the rolls. This head is the finishing head, and in running flooring face downward insures the removal of all marks made by the feed rolls, giving an extra fine finish.

BELTING REQUIRED FOR MACHINES WITH UPPER CYLINDER CUTTING FIRST.

The Nos. 31, 32, 33 and 35 require:
Two belts for top cylinder, each 21′ long, 5″ wide.
Two belts for bottom cylinder, each 21′ 2″ long, 5″ wide.
Two belts for side cutter heads, each 22′ 9″ long, 4″ wide.
One belt for feed, 14′ 3″ long, 3″ wide.

The Nos. 34, 36, 38, 39, 40, 41 and 42 require:
Two belts for top cylinder, each 21′ 1¼″ long, 6″ wide.
Two belts for bottom cylinder, each 21′ 3¼″ long, 6″ wide.
Two belts for side cutter heads, each 22′ 10¼″ long, 4″ wide.
One belt for feed, 14′ 3″ long, 3″ wide.

No. 37 requires:
Two belts for top cylinder, each 21′ 1¼″ long, 6″ wide.
Two belts for bottom cylinder, each 21′ 3¼″ long, 6″ wide.
One belt for feed, 14′ 3″ long, 3″ wide.

BELTING REQUIRED FOR MACHINES WITH LOWER CYLINDER CUTTING FIRST.

For Nos. 31A, 32A, 33A or 35A:
Two belts for top cylinder, each 24′ 5½″ long, 5″ wide.
Two belts for bottom cylinder, each 16′ 10½″ long, 5″ wide.
Two belts for side heads, each 25′ 10″ long, 4″ wide.
One belt for feed, 17′ 8″ long, 3″ wide.

For Nos. 34A, 36A, 38A, 39A, 40A, 41A or 42A:
Two belts for top cylinder, each 24′ 6¾″ long, 6″ wide.
Two belts for bottom cylinder, each 17′ long, 6″ wide.
Two belts for side heads, each 25′ 11¼″ long, 4″ wide.
One belt for feed, 17′ 8″ long, 3″ wide.

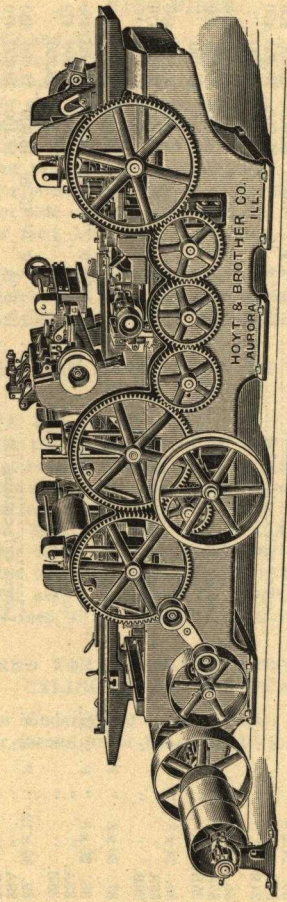
BELTING REQUIRED FOR MACHINES WITH ADDITIONAL LOWER CYLINDER (OR 5TH HEAD).

Same as given for Under Head Cutting First, and in addition:
One belt for second lower head, 28′ 1″ long, 5″ wide.

SCHEDULE OF HOYT NEW SERIES PLANERS AND MATCHERS.

BOXED FOR EXPORT.

Fig.	No.	Size.					Floor Space.	H. P.	Weight, lbs.	Weight, Boxed for Export, lbs.	Cubic ft.	Code.
645.	31.	9 x 8	Dble.	P. & M.,	Solid	Rolls	15′ 5″ x 7′ 6″	10–15	11,000	12,600	430	**Bombatig**
6451.	31A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	11,900	13,500	450	**Bombatlich**
6452.	31B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	12,200	13,800	"	**Bombawkist**
646.	32.	15 x 8	"	"	"		15′ 5″ x 8′	10–15	12,000	13,600	430	**Bombertone**
6461.	32A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	13,000	14,600	450	**Bombosita**
6462.	32B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	13,400	15,000	"	**Bomburger**
647.	33.	19 x 8	"	"	"		15′ 5″ x 8′ 8″	10–15	13,000	14,600	430	**Bonace**
6471.	33A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	14,100	15,700	450	**Bonadel**
6472.	33B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	14,550	16,150	"	**Bonafis**
648.	34.	24 x 8	"	"	"		15′ 5″ x 9′ 2″	15–20	14,000	15,600	450	**Bonbonie**
6481.	34A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	15,200	16,800	470	**Bonbucano**
6482.	34B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	15,750	17,350	"	**Boncelist**
649.	35.	19 x 8	"	"	Div.	Rolls	15′ 5″ x 8′ 8″	10–15	13,000	14,600	430	**Bondigit**
6491.	35A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	14,100	15,700	450	**Bondilaph**
6492.	35B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	14,550	16,150	"	**Bondimango**
650.	36.	24 x 8	"	"	"		15′ 5″ x 9′ 2″	15–20	14,000	15,600	450	**Bondire**
6501.	36A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	15,200	16,800	470	**Bondokip**
6502.	36B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	15,750	17,350	"	**Bondovest**
651.	37.	30 x 8	"	P. only,	"		15′ 5″ x 9′ 7″	15–20	15,000	16,600	450	**Bondumal**
652.	38.	30 x 8	"	P. & M.,	"		15′ 5″ x 9′ 7″	15–20	15,500	17,100	450	**Bonifaction**
6521.	38A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	16,900	18,500	470	**Bonignant**
6522.	38B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	17,600	19,200	"	**Bonihela**
653.	39.	30 x 12	"	P. & S.,	"		15′ 5″ x 9′ 7″	15–20	16,000	17,600	450	**Bonizo**
6531.	39A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	17,400	19,000	470	**Bonjest**
6532.	39B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	18,100	19,700	"	**Bonketing**
654.	40.	26 x 8	"	P. & M.,	"		15′ 5″ x 9′ 4″	15–20	14,500	16,100	450	**Bootshank**
6541.	40A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	15,800	17,400	470	**Bopheta**
6542.	40B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	16,400	18,000	"	**Bopokism**
655.	41.	26 x 12	"	P. & S.,	"		15′ 5″ x 9′ 4″	15–20	15,000	16,600	450	**Borgo**
6551.	41A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	16,300	17,900	470	**Borgobaft**
6552.	41B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	16,900	18,550	"	**Borgodish**
656.	42.	[24 x 12	"	"	"		15′ 5″ x 9′ 2″	15–20	15,000	16,600	450	**Borgum**
6561.	42A.	"	"	"	"	Lower cyl. cutting 1st	16′ 3″ x "	"	16,200	17,800	470	**Borguneph**
6562.	42B.	"	"	"	"	" " " " & 5th Head	16′ 9″ x "	"	16,750	18,350	"	**Borgunkle**



Figs. 657-59 Hoyt Nos. 26, 27, 28, Planers and Matchers.

HOYT & BRO. CO.'S

Nos. 26, 27 and 28 PLANERS AND MATCHERS.

A new design of planers and matchers, especially adapted to hard wood flooring, and equally efficient in working soft woods. Built in three sizes, to work 9", 15" and 21" wide, and from ⅜" to 8" thick. Will match from 1½" to the full width of the machine.

THE FRAMES are heavy, well ribbed and so designed that the cutter heads are placed directly over floor supports, and are long enough to give ample length to driving belts.

THE FEED consists of six 9½" rolls, with heavy pressure, fitted with parallel lift and driven by our improved system of expansion gearing.

The No. 28 machine is provided with sectional rolls and chip breaker and has a center guide.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel, four-sided, lipped and slotted. They are exactly alike in detail and are interchangeable. By our improved method end play is prevented when necessary by means of adjustable hard wood pins which run against the centers. The lower cylinder is drawn out at the left side of the machine for setting or sharpening the knives. The cylinder boxes are yoked both before and after the cut, insuring perfect alignment. Both cylinders are placed before the side heads, the lumber being evenly surfaced before reaching the side heads, insures perfectly matched flooring. Cylinder journals, 2½" diameter.

THE PRESSURE for the upper cylinder consists of a parallel lifting pony roll and a tool steel-faced chip breaker, which always retains its level position on the lumber. There is also a pressure bar after the cut, which is adjusted without the use of a wrench. There are no arms over the upper head, and all the pressure devices may be moved away from the head when setting out knives for rabbeting.

THE LOWER CYLINDER BARS are adjustable to and from cut. The first one has a tool steel-faced point, which may be placed so as to just clear the knives. The rear bars have spring pressure for the purpose of holding against the bed lumber which has thin or hollow spots.

THE SIDE HEAD SPINDLES are 2" in diameter, and 1 13-16" where the head goes on. The hold down arrangement is perfect. Both side heads are rigidly locked when in position by levers. The side head yokes have tool steel bearing pieces.

THE CHIP BREAKER for the side head is adjustable. The tool steel point on the long guide, as well as the blocks behind the side heads, are also adjustable.

There are four rates of feed, 40', 50', 60' and 80' per minute.

We advise dressing face down, as it permits the removal of the surplus stock with the top head and leaves only a limited amount to be removed by the lower one, allowing the pressure bar to be set much closer than any lifting chip breaker can be, and permits of superior work at a faster feed.

Every part or piece of the machine has a number cast or stamped upon it, so that in ordering repairs all that is necessary is to give the number.

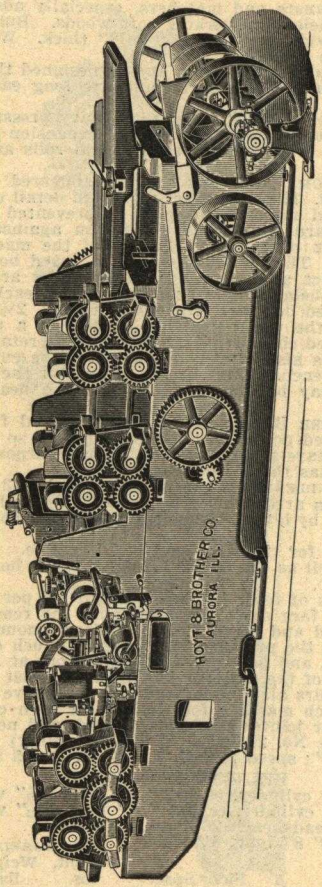
We furnish with each machine four knives for each cylinder, one pair of patent matcher heads or jointer heads, as desired, and necessary wrenches.

Countershaft for the No. 28 has T. & L. (self-oiling) pulleys, 14" x 10"; for 26 and 27, 14" x 8"; speed for all, 1,000; H. P., 15 to 20.

BELTING REQUIRED.

Two belts for upper cylinder, each 22' 2" long, 5½" wide.
Two belts for lower cylinder, each 18' 6" long, 5½" wide.
Two belts for side heads, each 26' long, 5" wide.
One belt for feed, 17' 8" long, 4" wide.

Fig.		Floor Space	Weight, lbs.	BOXED FOR EXPORT Weight, lbs.	Cubic ft.	Code
657	No. 28, 21 x 8, Div. Rolls	15' 7½" x 8' 9"	12,500	14,000	424	**Borguntic**
658	No. 27, 15 x 8, Solid Rolls	15' 7½" x 8'	12,000	13,500	382	**Boria**
659	No. 26, 9 x 8, Solid Rolls	15' 7½" x 7' 6"	11,500	13,000	340	**Bornito**



Figs. **660-61** Hoyt No. 29 Hardwood Planers and Matchers.

HOYT & BRO. CO.'S

No. 29 HARDWOOD PLANER AND MATCHER.

The new hardwood flooring machine is built in two sizes to dress from 1½" to 9" and 15" wide, and from ⅜" to 6" thick.

THE FRAMES are heavy, well ribbed and so designed that the cutter h ads are placed directly over floor supports.

THE FEED consists of eight 9½" rolls with steel shafts running in babbitted boxes of ample length. Lower roll boxes have an easy adjustment for lining up. The upper rolls have a parallel lift and a superior expansion gear. They are fitted with spring pressure, which may be increased or diminished when machine is running.

THE UPPER AND LOWER CUTTER HEADS are alike and made of best steel from solid forgings. They are slotted on four sides and carry knives 3½" wide with a swing of 6¾". The journals are 2½" in diameter and run in long self-oiling boxes. The bearings on both cutter heads are yoked together both before and after the cut, making it impossible for them to get out of line. Upper cutter head bearings are clamped by hand levers, keeping them firmly in place without the use of a wrench. Lower cutter head yoke may be drawn out on the operating side of machine.

CHIP BREAKER AND PONY ROLLS.—Pressure on lumber before the cut of upper head consists of a parallel left pony roll fitted with spring pressure and a chip breaker faced with tool steel, that follows the cut perfectly and that will not run into the knives on the heaviest cut.

PRESSURE BAR.—Pressure after the cut consists of a bar that may be adjusted to and from the head and also a slight vertical adjustment.

THE PRESSURE BED over the lower head is attached to the upper head yoke so that it is always in line with cut but has a slight independent adjustment.

LOWER HEAD PRESSURE BARS are adjustable to and from the cut. The front bar is made rigid and faced with tool steel. The second bar rests upon springs so that it will yield slightly under pressure.

THE SIDE HEAD SPINDLES are made of best steel and have 2" journals with a diameter of 1 13-16" where head fits on. The spindle yokes are readily adjusted independently and have separate clamping levers.

THE CHIP BREAKER has weighted pressure, is faced with tool steel, and is adjustable to and from the cut.

TOOL STEEL BEARING PIECES support the lumber between the cutter heads. The hold down arrangement is perfect and is easily adjusted.

We advise dressing face down, as it permits the removal of the surplus stock with the top head and leaves only a limited amount to be removed by the lower one, allowing the pressure bar to be set much closer than any lifting chip breaker can be, and permits of superior work at a fast speed.

We place both cylinders before the side heads, which permits the lumber to be evenly surfaced on both sides before reaching the side heads, thus insuring perfectly matched flooring.

We furnish with each machine four knives on each cylinder, one pair of patent matcher heads, or jointer heads, as desired, and all necessary wrenches.

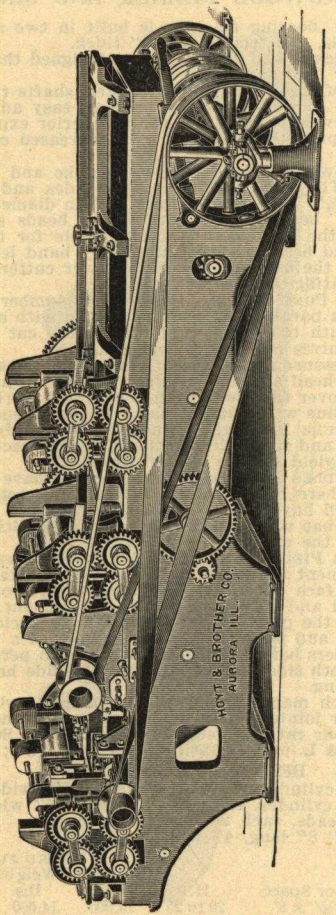
FEED SHELLS give four rates of feed, 40', 50', 60' and 80' per minute.

Countershaft has T. & L. pulleys (self-oiling), 14" x 8"; speed, 1,000.

BELTING REQUIRED.

Two belts for upper cylinder, each 22' 2" long, 5½" wide.
Two belts for lower cylinder, each 18' 6" long, 5½" wide.
Two belts for side heads, each 26' long, 5" wide.
One belt for feed, 17' 8" long, 4" wide.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, Cubic lbs.	ft.	Code
660	No. 29, 15" x 6"	15' 7½" x 8'	20 to 25	13,000	14,600	400	**Bornix**
661	No. 29, 9" x 6"	15' 7½" x 7' 6"	20 to 25	12,000	13,500	355	**Bornizary**



Figs. 662-63 Hoyt Nos. 9 and 10 Planers and Matchers.

HOYT & BRO. CO.'S

Nos. 9 and 10 PLANERS AND MATCHERS.

Designed for running flooring, ceiling and shiplap; works 9" and 15" wide and from ⅜" to 6" thick. Will match from 2" to the full width of the machine.

THE FRAME is heavy, well supported and firmly braced, capable of withstanding any strain put upon it.

THE FEED consists of six 9½" rolls, with heavy pressure, fitted with parallel lift.

The top and bottom cylinders are of hammered crucible steel, four-sided, lipped and slotted. The knives are interchangeable. The upper journal is 2½" diameter and the lower 2¼", running in self-oiling boxes 12" long. The under cylinder boxes are yoked together, insuring perfect alignment. The plate under the top cylinder when worn can be easily and quickly removed, planed up and replaced on the machine.

UPPER CYLINDER CHIP BREAKER consists of a parallel lifting pony roll working in connection with a tool steel faced chip breaker. The pressure bar after the cut of the top cylinder is so constructed as to give a yielding pressure and is easily adjusted to the cut of the knife. Both the chip breaker and back bar can be moved away from the cylinder so as to permit the use of beader knives, cove or drop siding knives or other bits to do similar work.

FRONT LOWER CYLINDER PRESSURE BAR is made rigid, but is provided with a vertical adjustment whereby bar can be kept in perfect alignment with bed of the machine. The rear bar rests upon springs which are for the purpose of allowing the bar to yield vertically. Both bars can be quickly removed and without the use of a wrench for the convenience of filing or setting the knives.

THE SIDE HEAD SPINDLES are large in diameter, 1 9-16" where the heads go on. They are supported by long boxes and rest on a bronze step, and run in oil chambers.

THE CHIP BREAKER for the outside head is adjustable.

There are four rates of feed, 40', 60', 80' and 100' per minute.

Every part or piece of machine has a number cast or stamped upon it, so that in ordering repairs all that is necessary is to give the number of the part wanted.

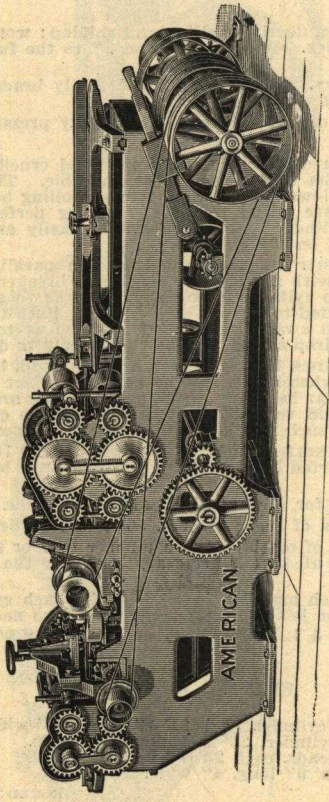
We furnish with each machine four knives for each cylinder, one pair of patent matcher heads or jointer heads, as desired, and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 8"; speed, 1,000.

BELTING REQUIRED.

Two belts for upper cylinder, each 22' 1" long, 5½" wide.
One belt for lower cylinder, 25' 10" long, 4½" wide.
Two belts for side heads, each 23' 7" long, 5" wide.
One belt for feed, 18' 9" long, 4" wide.

Fig.		Floor Space	H.P.	Weight, lbs.	BOXED FOR EXPORT Weight, lbs.	Cubic ft.	Code
662	No. 10, 15 x 6--	14' 10" x 8' 9"	10 to 15	9,400	10,900	370	**Borrento**
663	No. 9, 9 x 6--	14' 10" x 8' 3"	10 to 15	8,600	10,100	330	**Borset**



Figs. 664-65 Hoyt Nos. 18 and 19 Planers and Matchers.

HOYT & BRO. CO.'S

Nos. 18 and 19 PLANERS AND MATCHERS.

Intended for surfacing stock boards and general matching. Built in two sizes, working 7" and 14" wide, and from ⅜" to 4" thick; will match from 2" to the full width of the machine.

THE FRAME is simple in construction and built to give strength and easy access to the working parts.

THE FEED consists of six 6½" rolls, having parallel lift which are adjustable from either side of the machine.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel, foursided, slotted on all sides and alike, so that the knives are interchangeable. The journals are long and are 2" in diameter, running in self-oiling boxes. The under cylinder boxes are yoked together. The pull on the belt is not against the bolts which hold the boxes to place, but against a bracket cast on the frame, which is very simple in construction, but important, as it gives a solid support to the cylinder bearings.

THE CHIP BREAKERS OR PRESSURE BARS can be quickly and easily adjusted, and may be set close to the line of cut or back far enough to allow of ¾" projection of the knives. The pressure bars over the under cylinder are quickly removed for convenience in setting or filing the knives, and can be replaced without readjusting.

The plate under the top cylinder can be easily removed when worn, planed up and replaced on the machine.

THE SIDE HEAD SPINDLES are 1 9-16" diameter and 1 5-16" where the head goes on. The hold-down arrangement is perfect. Both sides are rigidly locked when in position by levers. We use our standard matcher stock, with an oil cup or receiver at the bottom of the spindle, so that it constantly runs in a cup of standing oil. The end is supported on bronze steps.

THE GEARING is of most modern construction, being strong and positive; by using large feed pulleys, which may be quickly changed, high speed is obtained.

There are three rates of feed, 40, 60 and 80 lineal feet per minute.

Every part or piece of the machine has a number cast or stamped upon it, so that in ordering repairs all that is necessary is to give the number of the part wanted.

We furnish with each machine two knives for each cylinder, one pair of patent matcher heads, or jointer heads, as desired, and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 7"; speed, 1,000.

BELTING REQUIRED.

Two belts for top cylinder, each 17' 10" long, 5" wide.
One belt for bottom cylinder, 21' 2" long, 4" wide.
Two belts for side heads, each 19' 4" long, 4" wide.
One belt for feed, 14' 3" long, 4" wide.

Fig.		Floor Space	H.P.	BOXED FOR EXPORT Weight, lbs.	Weight, lbs.	Cubic ft.	Code
664	No. 19, 14 x 4--	12' x 7' 3"	10 to 15	6,000	7,000	212	**Boscata**
665	No. 18, 7 x 4--	12' x 6' 9"	10 to 12	5,200	6,200	128	**Boscatemig**

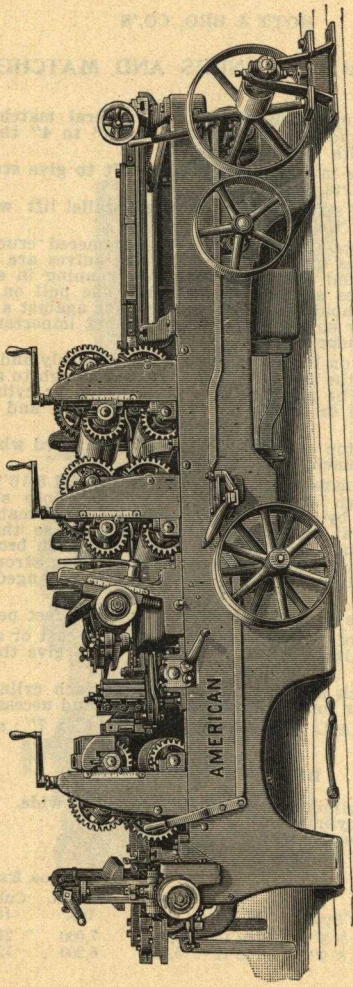


Fig. 668 Glen Cove No. 3 Planer and Matcher.

GLEN COVE MACHINE CO.'S

Nos. 3 and 62 HEAVY PLANERS AND MATCHERS.

These machines are adapted for general planing mill use, surfacing from 2" to 14", 24" or 30" wide, and from ¼" to 8" thick, on all four sides at one operation.

THE FEED consists of six rolls, operated by improved expansion gearing attached to shafts working in self-oiling boxes. On the No. 3 all feed rolls are solid and bear squarely on the material their entire length. On the No. 62 the top in-feeding rolls are divided, each section rising perfectly true. The divided rolls permit the feeding of unevenly sawed lumber, or two boards of different thickness at one time, and a center guide is furnished when ordered.

All the top rolls are weighted and fitted with parallel lift, each roll operated by one screw, doing away with all bevel gearing and leaving all parts easy of access.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel, with four sides lipped and slotted. Bearings are of large diameter, running in long self-oiling boxes lined with best metal. Boxes are connected by yoke across the machine and the top head is securely clamped in position by one movement of lever on operating side.

PRESSURE BAR OR CHIP BREAKER before the cut is arranged so that top cylinder can be removed without disturbing other parts, being adjustable to work as near cutting edge of knife as safety will permit and allow knives to project so as to cut 2" deep. The pressure bar after the cut is likewise adjustable so as to permit the use of beading or rabbeting cutters.

THROAT PLATES each side of bottom cylinder are arranged with adjustment to allow cut same depth as top cylinder and with appliances for easy access to knives, and for passage of chips to shaving spout and exhaust pipes.

PRESSURE BAR over under cutter swings up and back when required for adjustment of knives.

EXPANSION GEAR SYSTEM is of most modern construction, and allows operator to remove or replace any part in the quickest time possible. It dispenses with all loose gears, as they are attached to shafts which run in self-oiling boxes.

THE SIDE HEADS when set are firmly secured in place by means of our gripping device; no amount of pressure from the edges of the board can force them back. Above each matcher plate there is an adjustable pressure shoe.

PATENT WEIGHTED CHIP BREAKERS are provided for the side heads swinging close to the knives, are adjustable to allow of 2" projection of the knife, and prevent splitting or tearing out of the knots by the side heads.

THE MATCHER SPINDLES are of hammered crucible steel, running in self-oiling boxes, yoked together, adjustable by means of the screws and crank.

CUTTER HEAD PULLEYS are carefully fitted to a true taper and held by nut. There are three rates of feed—26', 39' and 65' per minute, or can furnish any rate of feed desired.

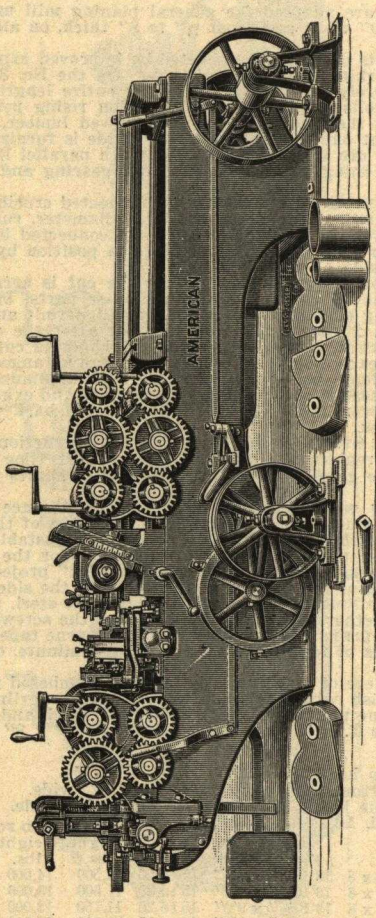
Every part or piece of machine is lettered or numbered for convenience in ordering. We furnish with each machine knives for cylinders, one pair of matcher heads, or one pair 8" jointer heads, as desired, and wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 8"; speed, 900.

BELTING REQUIRED.

Two belts for top head, each 20' 9" long, 4" wide.
Two belts for bottom head, each 23' 5" long, 4" wide.
Two belts for side heads, each 21' 10" long, 4½" wide.
One belt for feed, 16' long, 4" wide

Fig.	Size	Floor Space	H.P.	Weight, lbs.	Weight, Boxed for Export lbs.	Cubic ft.	Code
666	No. 3 (No. 62), 30 x 8	13'10½" x 9'9"	15 to 20	12,500	14,000	250	**Boscodaf**
667	No. 3 (No. 62), 24 x 8	13'10½" x 9'2"	15 to 20	11,500	13,000	225	**Boscolotum**
668	No. 3 24 x 8	13'10½" x 9'2"	15 to 20	11,150	13,000	225	**Boscophy**
669	No. 3 (No. 22), 14 x 8	13'10½" x 8'4"	10 to 15	70,000	12,200	210	**Boscorne**



Figs. **670-673** Glen Cove Nos. 5, 8, 52 and 55, Regular Planers and Matchers.

GLEN COVE MACHINE CO.'S

Nos. 5, 8, 52 and 55 REGULAR

FAST-FEED PLANING AND MATCHING MACHINES.

This series of machines, specially designed and simplified, works from ¼" up to 6" thick and from 2" to 24" wide, as per schedule below.

Nos. 5 and 8 are adapted for general planing mill work, jobbing, etc., while Nos. 52 and 55 are almost exclusively used for manufacture of flooring.

THE ROLLS on Nos. 5 and 8 are 7" in diameter, while on Nos. 52 and 55 are 8½"; powerfully geared to insure a steady and positive feed; they have parallel hoist, are weighted and bear squarely their entire length.

THE CYLINDERS are of hammered crucible steel, four-sided, lipped and slotted. The top cylinder is raised or lowered ⅛" by one turn of the crank, and loosened or tightened by lever on working side of machine; both cylinders run in self-oiling boxes, strongly yoked together, insuring perfect alignment. The top cylinder yoke and boxes, together with chip breaker and pressure bar, may be easily removed without disturbing any other part of the machine.

THE PLATE under the cut of the top cutter head is secured to the cutter head bed by bolts from underneath the bed. Should the plate wear after long and hard usage, it may be removed by loosening these bolts, planed up and replaced on the machine. Matcher spindle frames are adjustable for convenience in lining them to this plate in case of repairs.

PATENT WEIGHTED CHIP BREAKERS are provided for the side heads, swinging close to the knives, are adjustable to allow of long projection of knife and prevent splitting or tearing out of the knots by the knives.

THE MATCHER SPINDLES are of hammered crucible steel, running in self-oiling boxes yoked together; these are adjustable by means of the screws and crank, and held firmly in position by one movement of the lever.

FEED WORKS are arranged to be stopped and started from feeding in end, as well as at the side of the machine near the side heads. Regular rates of feed, Nos. 5 and 8, are 21', 31' and 47' per minute; regular rates of feed, Nos. 52 and 55, are 25', 37' and 56' per minute; or can furnish faster or slower feed according to work required.

We furnish with each machine knives for cylinders, one pair of matcher heads, or one pair of 6" jointer heads, as desired, and necessary wrenches.

Countershafts have T. & L. (self-oiling) pulleys, 14" x 8"; speed, 900.

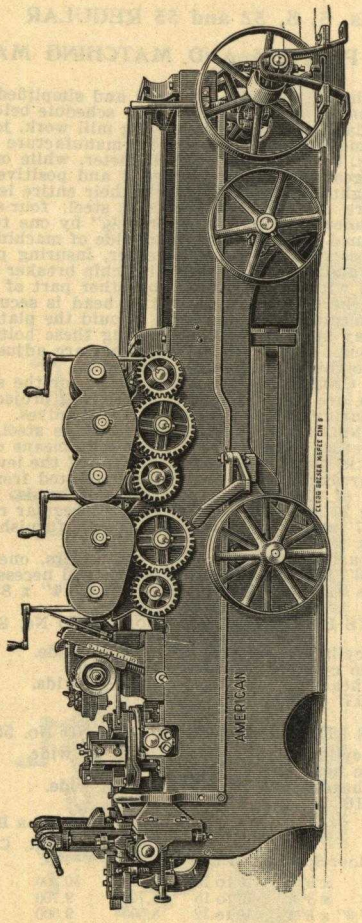
BELTS REQUIRED FOR No. 5 AND No. 8.

Two belts for top cylinder, each 19' 4" long, 4" wide.
One belt for bottom cylinder, 26' long, 3½" wide.
Two belts for side heads, each 20' 10" long, 3½" wide.
One belt for feed, 17' 4" long, 4" wide.

BELTS REQUIRED FOR No. 52 AND No. 55.

Two belts for top cylinder, each 19' 2" long, 4" wide.
One belt for bottom head, 26' 6" long, 4" wide.
Two belts for side heads, each 20' 2" long, 3½" wide.
One belt for feed, 16' 7" long, 4" wide.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
670	No. 5, 24 x 6...	13' x 9' 1"	10 to 15	9,300	10,300	210	**Boscotix**
671	No. 8, 18 x 6...	13' x 8' 4"	10 to 15	8,700	9,700	210	**Boscovite**
672	No. 55, 14 x 6...	13' 3" x 8' 4"	10 to 12	8,500	9,500	210	**Botanco**
673	No. 52, 10 x 6...	13' 3" x 8'	10 to 12	7,700	8,700	210	**Botangum**



Figs. **674, 675** Glen Cove Nos. 52 and 55 Special Planers and Matchers.

GLEN COVE MACHINE CO.'S

Nos. 52 and 55 SPECIAL FAST-FEED FLOORING MACHINES.

These machines work from ¼" up to 6" thick and from 2" to 14" wide, as per schedule below. They embody the same general features of the regular No. 52 and No. 55 planer and matchers, excepting that the three pair of feed rolls are placed in front of the cutter heads, having no carrying-out roll. This prevents roll or shaving marks from showing on smooth face of the lumber where piping is imperfectly done. By placing the rolls in this position a strong, powerful feed is assured, and the danger of roll marks is eliminated. The rolls have parallel hoist, are weighted, and bear squarely their entire length.

THE CYLINDERS are of hammered crucible steel, four-sided, lipped and slotted. The top cylinder is raised or lowered ⅛" by one turn of the crank and loosened or tightened by lever on working side of machine; both cylinders run in self-oiling boxes, strongly yoked together, insuring perfect alignment. The top cylinder yoke and boxes, together with chip breaker and pressure bar, may be easily removed without disturbing any other part of the machine.

THE PLATE under the cut of the top cutter head is secured to the cutter head bed by bolts from underneath the bed. Should the plate wear after long and hard usage, it may be removed by loosening these bolts, planed up and replaced on the machine. Matcher spindle frames are adjustable for convenience in lining them to this plate in case of repairs.

PATENT WEIGHTED CHIP BREAKERS are provided for the side heads, swinging close to the knives, are adjustable to allow of long projection of knife and prevent splitting or tearing out of the knots by the knives.

THE MATCHER SPINDLES are of hammered crucible steel, running in self-oiling boxes yoked together; these are adjustable by means of the screws and crank and held firmly in position by one movement of lever, one revolution of the crank moving the spindle ¼"

FEED WORKS are arranged to be stopped and started from feeding-in end, as well as at the side of the machine near the side heads. Regular rates of feed, 33', 55' and 66' per minute, or can furnish faster or slower feed according to work required.

We furnish with each machine knives for cylinders, one pair of matcher heads, or one pair of 6" jointer heads as desired, and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 8"; speed, 900.

BELTING REQUIRED.

Two belts for top cylinder, each 22' 5" long, 4" wide.
One belt for bottom cylinder, 22' 2" long, 4" wide.
Two belts for side heads, each 23' 7" long, 3½" wide.
One belt for feed, 17' 4" long, 4" wide.

Fig.		Size	Floor Space	H.P.	BOXED FOR EXPORT Weight, lbs.	Weight, lbs.	Cubic ft.	Code
674	No. 55, Special	14 x 6	13' 3" x 8' 4"	10 to 12	8,600	9,600	210	**Botanix**
675	No. 52, Special	10 x 6	13' 3" x 8'	10 to 12	8,000	9,000	210	**Botelera**

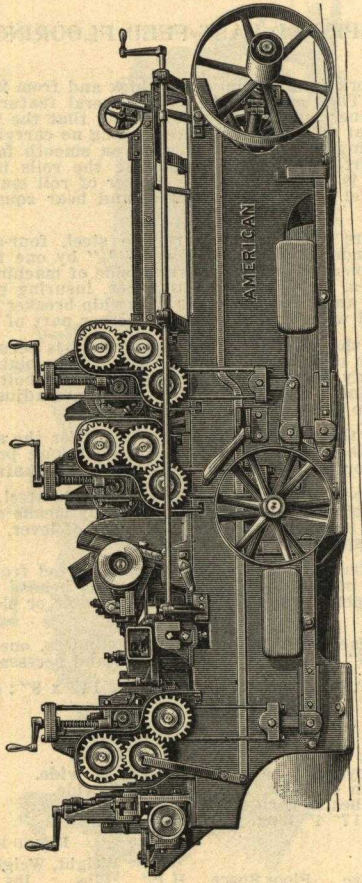


Fig. 676 Rogers No. 5 Planer and Matcher.

C. B. ROGERS & CO.'S

Nos. 5 and 6 PLANERS AND MATCHERS.

No. 5 is a Six-Roll Machine; No. 6 has Four Rolls.

These are regular four-head general jobbing planers, built in three sizes as shown below, with feed rolls on the end, or cylinder on the end, as may be desired.

THE FRAMES of these machines are all low and below the lowest level of the rolls and cylinders. Frames are heavy and well ribbed, making an excellent support for cylinder bed plates, roll posts, etc.

THE TOP CYLINDER bed plate and support for the cylinder is very heavy and substantial; boxes carrying the cylinder are 10½" long, yoked together across the machine, and sustain the pressure bar and bonnet chip breaker, both of which are adjustable to and from the cut to variation of projection. Lower cylinder boxes are same as the upper, and connected in yoke form attached to angle plates, which in turn are attached to the frame. Adjustment of the cylinder is obtained through adjusting screws with check nuts. Cylinder can be raised or lowered at both ends, or either end, independent of the other.

PRESSURE BAR arranged to swing up from either side, and the bars are both adjustable and can be completely removed when desired, to allow of easy access to lower cylinder. End table can be dropped to adjust knives.

THE SIDE SPINDLES are large, run in heavy yoked babbitted boxes, with special device for supporting them and lubricating the lower end of the spindle and step. These yokes are supported on heavy flat cross bars and have very large bearing at upper end, adjusted by means of screw and nut, the nut being removable, so that when worn to show back lash, it can be readily replaced. The yoke is held in position on the bar by means of two loose gibs, and can be clamped in position by means of large hand-wheel at the back. Side heads have weighted chip breakers swinging in circle with the cut.

THE FEED is strong and so arranged that cramping of the roll gears or boxes is impossible. Rates of feed, 24', 36', 48' and 60' per minute. The feed is stopped and started by means of tight and loose pulleys, with shifter at both ends of machine.

Each machine supplied with knives for each cylinder and one pair of matcher or jointer heads as desired, and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 8"; speed, 1,000.

BELTS REQUIRED.

Two belts for top head, each 18' 9" long, 4" wide.
One belt for bottom head, 24' 10" long, 4" wide.
Two belts for side heads, each 20' long, 3½" wide.
One belt for feed, 16' long, 4" wide.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
676	No. 5, 24 x 6, 6 Rolls	12'4½" x 9'6"	10 to 15	9 600	10,400	220	**Bottegoro**
677	No. 5, 15 x 6, 6 Rolls	12'4½" x 8'9"	10 to 12	8 550	9,400	210	**Bottiga**
678	No. 6, 24 x 6, 4 Rolls	12'4½" x 9'6"	10 to 15	9,100	9,900	220	**Bottinog**

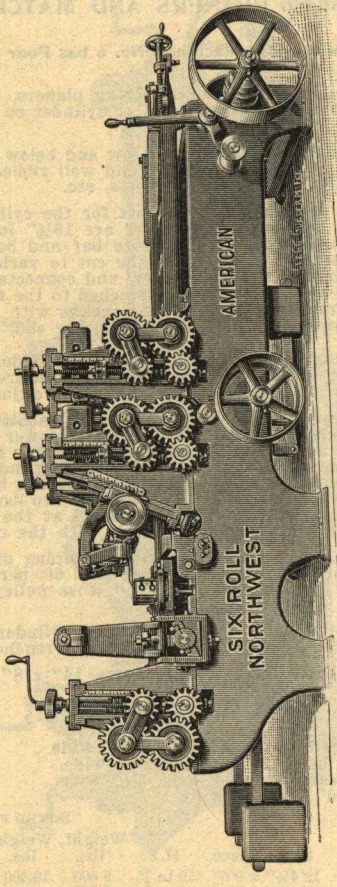


Fig. 6783 Six-Roll New Northwest Planer and Matcher.

ROWLEY & HERMANCE CO.'S

SIX-ROLL NEW NORTHWEST PLANER AND MATCHER.

New design Six-Roll New Northwest Planer and Matcher. It will surface 26" wide on two sides up to 8" thick without removing the side spindles. Will joint or match four sides from 2¼" up to 22½" wide, and from ¼" to 6" thick.

THE FRAME is heavy, substantially constructed and firmly braced.

THE FEED consists of six 6" rolls, four in-feeding, and two delivery rolls at the rear of the under cylinder.

In the divided roll machine the top in-feeding rolls are in two sections and so arranged that they have singly or combined the feeding power of a solid roll, yet each section of the roll will yield independently of the other, so that two pieces of lumber varying in thickness may be fed at the same time, with even pressure on both. Center guides are provided with the divided roll machine when so ordered.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel forgings, four-sided, lipped and four-slotted, carrying two knives. Knives are interchangeable and can be used on either cylinder. The journals are 2" in diameter, running in long self-oiling boxes. The under cylinder is adjusted on inclines. The bed or throat plate back of it is adjustable to conform with the cut.

THE DIVIDED HOOD OR CHIP BREAKER works in connection with the divided roll and is adjustable to and from the head.

THE PRESSURE BAR over the under cylinder is hinged on both sides, and can be swung to either side of the machine by loosening one nut, or can be removed entirely, if desired, thus giving quick access for sharpening or setting the knives.

THE MATCHER SPINDLES are of hammered crucible steel of large diameter, running in self-oiling boxes, yoked together. These are adjustable by means of screws and crank, and held firmly in position.

THE GEARS are strong and heavy, with wide faced teeth, making a powerful feed.

There are two rates of feed, 26 and 50 lineal feet per minute.

We furnish with each machine two knives for each cylinder, one pair (2) two-winged matcher heads with a set of milled matcher bits (these heads will take in cutters up to 2½" wide), two beading knives, two novelty siding knives and necessary wrenches. When so ordered we furnish, at an extra price, 6" four-sided jointer heads or patent circular bit matcher heads.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 8"; speed, 900.

BELTING REQUIRED.

Two belts for top cylinder, each 18' 10" long, 5" wide.
One belt for bottom cylinder, 21' 11" long, 5" wide.
Two belts for side heads, each 19' 1" long, 3½" wide.
One belt for feed, 13' 8" long, 3" wide.

				BOXED FOR EXPORT			
				Weight,	Weight,	Cubic	
Fig.	Size	Floor Space	H. P.	lbs.	lbs.	ft.	Code
6781	26 x 8 Solid Roll	13' 6" x 8' 10"	10 to 12	7,700	8,800	355	**Botuflis**
6783	26 x 8 Divided Roll	13' 6" x 8' 10"	10 to 12	8,200	9,300	355	**Botvamp**

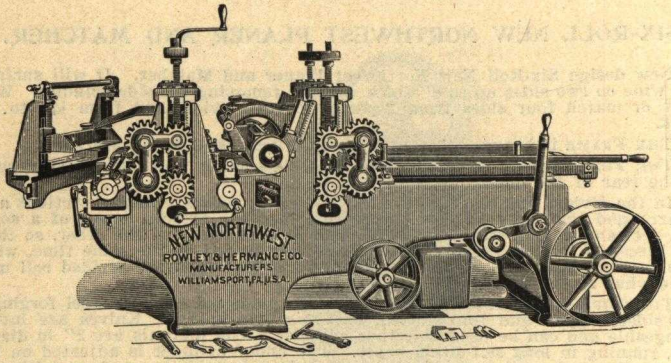


Fig. 679 Four-Roll "New Northwest" Planer & Matcher.

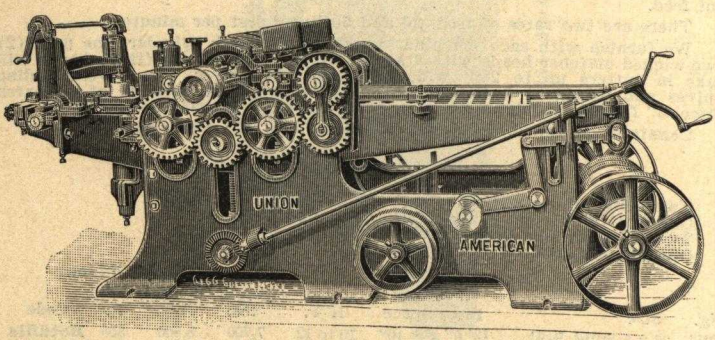


Fig. 687 "Union" Planer and Matcher.

ROWLEY & HERMANCE CO.'S

FOUR-ROLL "NEW NORTHWEST" PLANER AND MATCHER.

Built either as a single or double surfacer and matcher for flooring, ceiling, siding, molding, etc.; a strong, durable and compact machine, adapted to general planing mill use and for all ordinary work. It will work 24" wide, and from ¼" to 8" thick, and match from 2½" to 20" wide. The frame is cast in one piece. The top and bottom cylinders are made of solid crucible steel forgings, slotted on four sides, and the top cylinder is belted at both ends. The table in front of the under head acts as a chip breaker and is adjustable to and from the head. The pressure bar and chip breaker are adjustable. Adjustable chip breakers are provided for the matcher heads. It has four 6" driven feed rolls. The feed rolls are weighted. Two rates of feed—32' and 47'. We furnish with each machine two 24" knives for each cylinder, one set two-wing matcher heads, with one set (four) matcher knives (these heads will take in cutters up to 2¼" wide), two beading knives, two novelty siding knives, and necessary wrenches; 6" jointer heads or patent matcher heads extra. Countershaft has T. & L. (self-oiling) pulleys, 12" x 8"; speed, 900.

BELTING FOR DOUBLE SURFACER.

Two top head belts, each 14' 8" x 5". Two side head belts, each 14' 11" x 3½".
One bottom head belt, 19' 2" x 5". One feed belt, 9' 3" x 3".

Fig.		Floor Space	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
679	24 x 8 Dble. P. & M....	10'3" x 8'8"	6 to 10	5,500	6,400	230	**Bougan**
680	24 x 8 Sgle. P. & M....	10'3" x 8'8"	6 to 10	4,900	5,800	230	**Bougerman**

AMERICAN

NEW "UNION" PLANER AND MATCHER.

Adapted for flooring, novelty siding, beading, etc., working 24" wide, from ¼" to 8" thick. The front pressure bar or chip breaker may be swung clear of the cylinder for sharpening or setting the knives for any style of work. The cylinders are steel forgings, with all sides slotted. The top cylinder is double belted. The side heads are cast steel and are adjustable to work flooring any width from 2½" up to 14" wide, and are swung out of the way when changing. Four feed rolls 6" in diameter, all solid, or top infeed roll divided to surface two pieces of uneven thickness, and fitted with powerful gearing. There are two rates of feed, 40' and 60' per minute.

With each machine we furnish 24" knives for each cylinder, one pair of matcher heads, with bits for flooring (these heads will take in cutters up to 3" in width), one pair of German siding knives, one pair of beading knives, right and left handed; 6" jointer heads or patent matcher heads extra. Countershaft has T. & L. (self-oiling) pulleys, 12" x 8"; speed, 900.

BELTING REQUIRED FOR DOUBLE SURFACER.

Two top head belts, each 15' 5" x 4½" Two side head belts, each 17' 5" x 4"
One bottom head belt, 19' 11" x 4. One feed belt, 9' 2" x 2½"

Fig.		Floor Space	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
687	24 x 8 Dble. Div. Roll..	10'2" x 7'8"	6 to 10	5,200	6,000	250	**Bougfanto**
688	24 x 8 Sgle. Div. Roll..	10'2" x 7'8"	6 to 10	4,900	5,700	250	**Boughast**
689	24 x 8 Dble. Solid Roll.	10'2" x 7'8"	6 to 10	5,200	6,000	250	**Bougrando**
690	24 x 8 Sgle. Solid Roll.	10'2" x 7'8"	6 to 10	4,900	5,700	250	**Bougrassi**

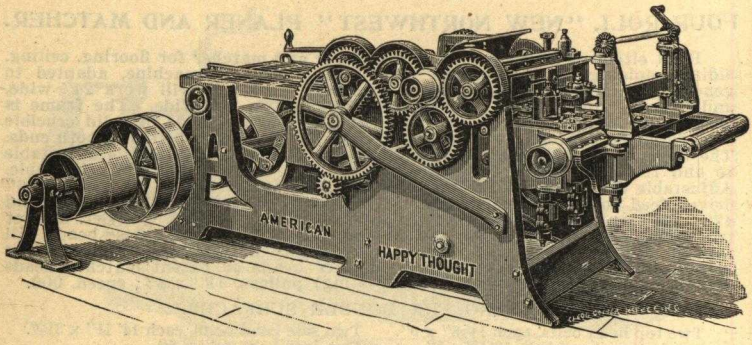


Fig. 691 Williamsport "Happy Thought" Planer and Matcher.

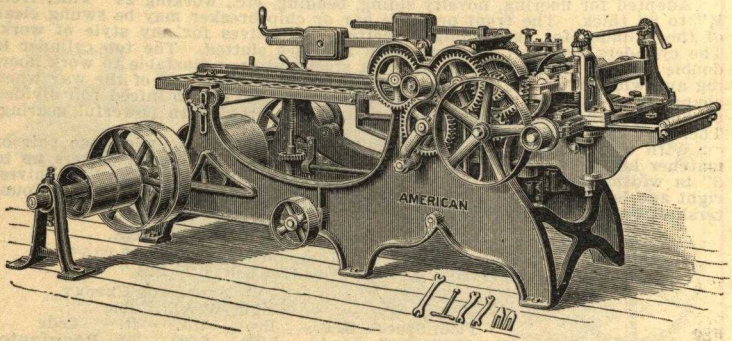


Fig. 693 Rowley & Hermance "Sweepstakes" Planer and Matcher.

WILLIAMSPORT MACHINE CO.'S

"HAPPY THOUGHT" PLANER, MATCHER AND MOULDER.

Especially adapted for use in job planing mills. Built either as single or double surfacer, working 24" wide, 6" thick, matching from 2½" up to 14" wide. The cylinders are of forged steel, and four-sided; two sides are slotted. The top cylinder is double belted, has extra long bearings. The table back of the cylinder, by loosening the bolt, is allowed to swing, permitting easy access to sharpen or adjust the knives. The side heads are cast steel, and are adjusted to the different widths of stock by hand wheel. Matcher spindles are allowed to swing below the bed. The feed consists of four feed rolls, driven by improved expansion gearing. There are two changes of feed—32 and 50 lineal feet per minute. With each machine we furnish two straight knives, 24" long, for each cylinder, one set each of flooring, German siding, rabbeting, beading and joining knives, one pair two-winged matcher heads (these heads will take in cutters up to 2¼" wide), and all necessary wrenches. When ordered we can furnish 4" jointer heads, or patent matcher heads.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 6"; speed, 900.

BELTING REQUIRED FOR DOUBLE SURFACER.

Two top head belts, 14' 2" x 3½". One belt for under head, 18' x 3½".
Two side head belts, 15' 6" x 3". One feed belt, 10' 4" x 2".

Fig.		Floor Space	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
691	24 x 6 Dble. P. & M....	9' 5" x 7' 6"	6 to 10	4,000	4,475	160	**Bouillon**
692	24 x 6 Sgle. P. & M....	9' 5" x 7' 6"	6 to 10	3,700	4,175	160	**Boulettis**

ROWLEY & HERMANCE CO.'S

"SWEEPSTAKES" PLANER, MATCHER AND MOULDER.

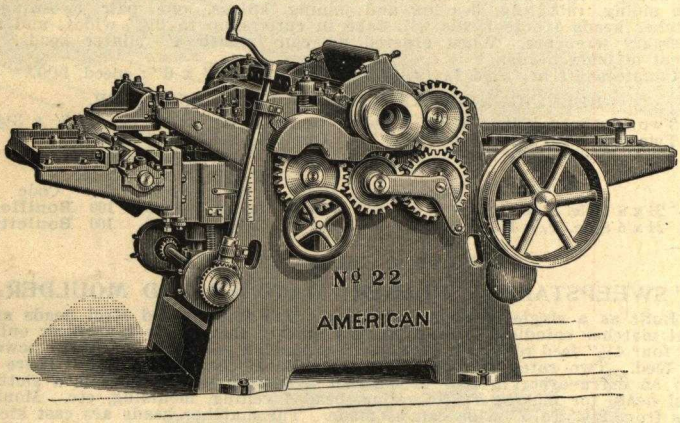
Built as a single or double surfacer. Has solid forged steel heads and steel matcher spindles. It can be very quickly changed to a surfacer only; has four 4½" feed rolls, connected with expansion gear, making a very powerful feed. Two rates of feed—32 and 45 lineal feet per minute. There is also an extra arbor in rear of matcher heads, on which there is a slotted steel head, for making rustic siding, beaded ceiling, moulding, etc. Mouldings from 2½" to 5" wide can be made. The matcher heads are cast steel, and are furnished with patent straight, solid milled matcher bits. Top cylinder belted at both ends. The bottom cylinder carries knives 20" long. We furnish with each machine one set (two) straight knives for each cylinder, one set two-winged matcher heads (these heads will take in bits up to 2¼" wide), one set (two) rustic siding knives, and one set (two) beading knives for slotted head on extra arbor, and necessary wrenches. 4" jointer heads or patent matcher heads furnished as an extra.

Countershaft for 24" double surfacer has T. & L. (self-oiling) pulleys, 10" x 8"; speed, 900. For 24" and 20" single surfacer, 10" x 6"; speed, 900.

BELTING REQUIRED FOR DOUBLE SURFACER.

Two top head belts, 14' 7" x 3½". One beader head belt, 17' 6" x 3½"
One bottom head belt, 18' 4" x 3½" One feed belt, 11' 2" x 2½".
Two side head belts, 15' 6" x 3". One feed belt, 9' 11" x 2".

Fig.	Size	Floor Space	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
693	24 x 6 Double.....	9' x 4' 4"	3 to 6	3,600	4,150	135	**Boulevaro**
694	24 x 6 Single	9' x 4' 4"	3 to 5	3,200	3,750	135	**Boulfish**
695	20 x 6 Single	9' x 4'	3 to 5	3,000	3,500	135	**Boulike**



Hoyt No. 22 Planer and Matcher.

HOYT & BRO. CO.'S

No. 22 PLANERS AND MATCHERS, AND SURFACERS.

These machines are built as single or double planers and matchers, or as single or double surfacers. They will surface 24" to 30" wide and from 1/8" to 6" thick. The 30" planer and matcher will match from 2½" to 18" wide, while the 24" machine will match from 2½" to 12".

THE FEED consists of four 5" rolls, strongly geared. The top in-feeding roll is solid or divided, as ordered.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel, carrying two knives. The top cylinder is double belted and is slotted on two sides to permit the use of moulding, beading and other odd knives. The bottom cylinder is placed outside of the second pair of rolls, or at the rear of the machine. It is easy of access for changing or sharpening the knives. The journals are large in diameter and run in long self-oiling boxes. Top cylinder journals, 2¼" diameter. Bottom cylinder journals, 2" diameter.

THE CHIP BREAKER AND PRESSURE BAR for the top cylinder are adjustable.

THE SPINDLES are of large diameter, running in self-oiling boxes. The bottom ends of the spindles are supported on bronze steps running in oil chambers. Diameter of spindle where head goes on, 1 5-16".

When used as a surfacer, the bolts in the plates are loosened. The plates are then turned around, which allows the heads to swing below the line of cut.

We furnish with each machine two knives for each cylinder, one pair of beader bits, one pair of three-winged side heads, with one set of 1" matching and one set of 2" jointing bits, with necessary wrenches.

The regular rates of feed—30', 40' and 50' per minute.

Floor space for 30" machines, 7' 11" x 12' 3". For 24" machines, 7' 3" x 12' 3".

Countershaft has T. & L. (self-oiling) pulleys, 14" x 7"; speed, 1,000.

BELTING FOR THE PLANER AND MATCHER.

Two belts for top cylinder, each 17' 9" long, 5" wide.
One belt for bottom cylinder, 22' 2" long, 4" wide.
Two bolts for side heads, each 19' 7" long, 3½" wide.
One belt for feed, 13' 1" long, 4" wide.

Fig.	Size	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
696	30 x 6 Dble. P. & M., Div. Roll	10 to 12	5,200	6,000	158	**Boulinego**
697	30 x 6 Sgle. P. & M., Div. Roll	8 to 10	4,700	5 500	158	**Boulinexus**
698	30 x 6 Dble. P. & M., Solid Roll	10 to 12	5 100	5,900	158	**Boulonate**
699	30 x 6 Sgle. P. & M., Solid Roll	8 to 10	4,600	5,400	158	**Boulonsir**
700	24 x 6 Dble. P. & M., Div. Roll	10 to 12	4.600	5.400	142	**Bourbestig**
701	24 x 6 Sgle. P. & M., Div. Roll	8 to 10	4,200	5,000	142	**Bourbet**
702	24 x 6 Dble. P. & M., Solid Roll	10 to 12	4 500	5,300	142	**Bourbokas**
703	24 x 6 Sgle. P. & M., Solid Roll	8 to 10	4,100	4,900	142	**Bourdella**
704	30 x 6 Dble. Surf., Div. Roll	8 to 10	4 600	5,400	158	**Boutelmat**
705	24 x 6 Dble. Surf., Div. Roll	8 to 10	4,000	4 800	142	**Bouter**
706	30 x 6 Dble. Surf., Solid Roll	8 to 10	4,500	5,300	158	**Boutiska**
707	24 x 6 Dble. Surf., Solid Roll	8 to 10	3.900	4,700	142	**Boutlixo**
708	30 x 6 Sgle. Surf., Div. Roll	6 to 8	4,100	4,900	158	**Boutongal**
709	24 x 6 Sgle. Surf., Div. Roll	6 to 8	3.400	4,200	142	**Boutsur**
710	30 x 6 Sgle. Surf., Solid Roll	6 to 8	4,000	4,800	158	**Boutzet**
711	24 x 6 Sgle. Surf., Solid Roll	6 to 8	3,300	4,100	142	**Bouvex**

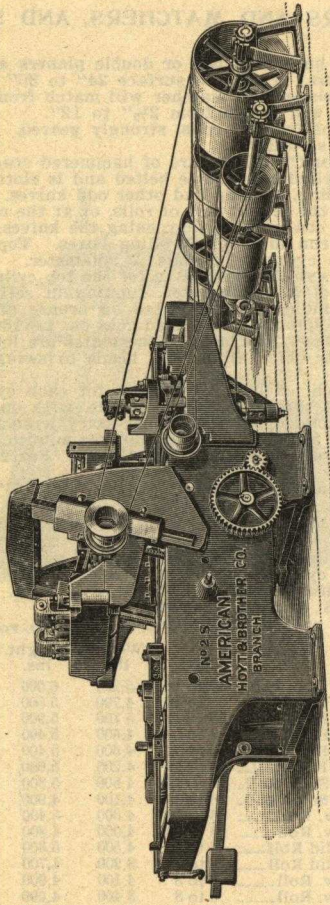


Fig. 712 Hoyt No. 2 Endless Bed Sizer.

HOYT & BRO. CO.'S

No. 2 ENDLESS BED SIZER.

The machine in its construction combines simplicity with strength and durability. It will surface 30″ in width and from ⅜″ to 16″ in thickness, and will size up to 30″ in width and from ⅜″ to 8″ or 12″ thick.

THE FRAME is carefully fitted in all its parts, is heavy and capable of withstanding any strain which may be put upon it.

ENDLESS BED. The chain runs on three steel-laid bed pieces, and the lags have patent anti-friction bearings, and are connected at each end with two steel links, each 9-16″ thick, placed together between the lugs and connected with ½″ rivets.

THE DIVIDED ROLLS are 5¼″ in diameter. Our improved chip breakers are placed near the cylinder and are so connected with the large rolls as to be governed by them, yet having the required pressure. The rolls and chip breakers have independent oscillation and independent pressure. They are hung in a frame which is easily swung back to allow of easy access for setting or sharpening the knives. There are two pressure rolls behind the top head, making three rolls and the chip breaker to hold the lumber firmly on the bed.

TOP AND BOTTOM CYLINDERS are made of hammered crucible steel forgings, four-sided, lipped and slotted. The knives are interchangeable. The top journals are 2½″ in diameter, running in 12″ self-oiling boxes.

POWER HOIST. This machine can be supplied with power hoist for the raising of the top cylinder when so desired.

THE PRESSURE consists of the divided roll and chip breaker and the two pony rolls. The pressure bed over the under cylinder is carried with the top cylinder, and consequently is always in line, but can be adjusted independently if necessary. It is hinged and can be swung out of the way for easily setting or sharpening the knives.

THE SIDE HEADS are of steel, slotted on four sides. They are supported by a third or top box, as shown in cut, which avoids any trembling or vibration.

SPINDLES run on bronze steps in long self-oiling boxes.

THE CHIP BREAKERS for the side heads are laid with steel in 2″ sections, and as the greater portion of sizing is 2″, the lower section can be replaced when worn without removing the upper section.

The machine is belted entirely from the rear, as shown in cut.

THE FEED is strong, positive, powerful and is 40′, 60′ and 80′ per minute for machine with 8″ side heads; or 20′, 30′, 40′, 60′ and 80′ for machine with 12″ side heads.

We furnish with each machine two knives for each cylinder, one pair of jointing heads, with four knives, countershaft and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 16″ x 10″; speed, 1,000.

BELTING REQUIRED.

Two belts for top cylinder, each 26′ long, 6″ wide.
One belt for bottom cylinder, 21′ 3″ long, 5″ wide.
Two belts for side heads, each 18′ 10½″ long, 6″ wide.
One belt for feed, 24′ 2″ long, 4″ wide.
One belt for power hoist, 15′ 2″ long, 1½″ wide.

BELTING REQUIRED FOR MACHINE WITH 12″ SIDE HEADS.

One belt for feed, 36′ 2″ long, 4″ wide.
One belt for feed, 16′ long, 5″ wide.

Fig.	Size	Floor Space	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
712	No. 2, 30 x 12	16′ 4″ x 10′ 6″	15 to 20	11,000	12,500	370	**Bovelta**
713	No. 2, 30 x 8	16′ 4″ x 10′ 6″	15 to 20	10,500	12,000	370	**Bovineted**

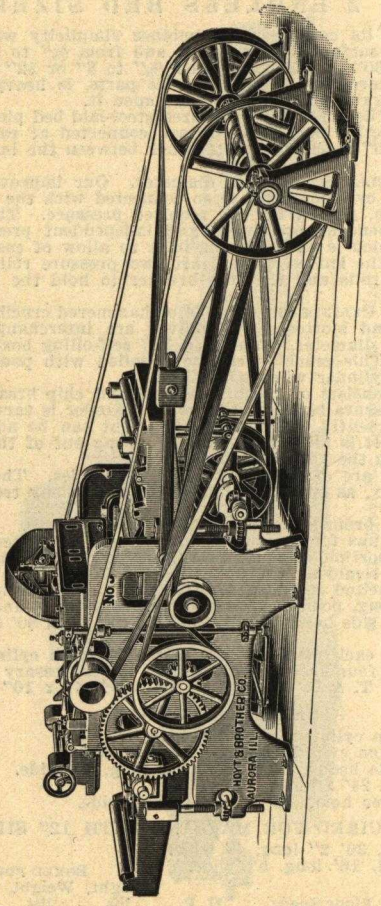


Fig. 714 Hoyt No. 5 Endless Bed Double Surfacer.

HOYT & BRO. CO.'S

No. 5 PATENT ENDLESS BED DOUBLE SURFACER.

It is made to dress 26" wide and from ⅜" to 8" thick. Has three changes of feed—namely, 40, 60 and 80 lineal feet per minute.

THE TABLE is supported on four screws, 1⅝" in diameter, and is guided by planed ways. The worm nuts and gear for raising and lowering the table are all connected and operated by hand or power, as may be desired.

The divided or broken roll on this surfacer has connected with it a chip breaker of superior pattern. The spring giving pressure to the rolls is very long, with ends resting on an equalizing bar, laying between the spring and rolls, and with this long spring and equalizing bar we are enabled to give a lift of 1½" above the cut of cylinder.

The sides are cut away at the rear end, leaving the under cylinder and attachments all clear for setting or sharpening the knives.

THE BOXES to lower cylinder are yoked together, and are placed between the supports to the table. The bars beside the under cylinder are of new pattern and are supported at each end on springs. There are no nuts or bolts to loosen in taking out or replacing these bars.

THE CYLINDERS are made of hammered steel, with spindles or arbors 2⅛" in diameter and 10" bearings. Knives are interchangeable.

THE CHAIN is connected with steel links and ½" steel rivets. We use the double sprocket gear. The bearings have our patent anti-friction metal linings. The chain runs on steel laid bed pieces.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 8"; speed, 850.

BELTING REQUIRED.

Two belts for top cylinder, each 20' 10" long, 5" wide.
One belt for bottom cylinder, 25' long, 4" wide.
One belt for feed, 20' 6" long, 3" wide.
One belt for feed, 27' 3" long, 2½" wide.

Fig.		Floor Space	H.P.	Weight, lbs.	BOXED FOR EXPORT Weight, lbs.	Cubic ft.	Code
714	No. 5, 26 x 8----	13' 5" x 8' 3"	15	5,800	6,600	210	Bovinot

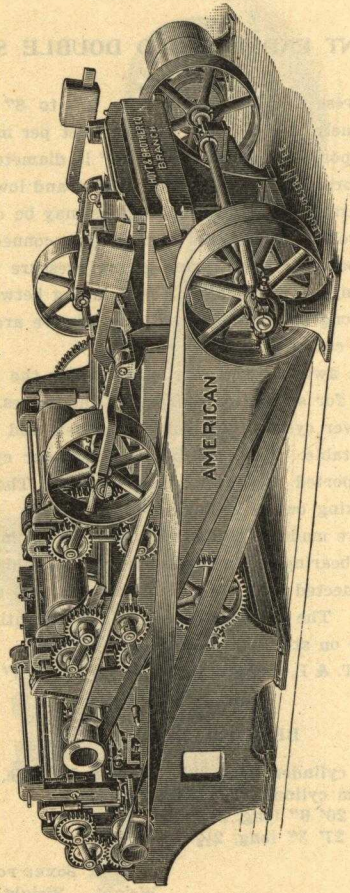


Fig. 715 Hoyt No. 8 Double Surfacer.

HOYT & BRO. CO.'S

Nos. 8 and 8½ DOUBLE SURFACERS.

Designed for general surfacing for planing mill and box factory use. Built in two sizes. The No. 8 will work 30″ wide, and the No. 8½, 26″ wide. Both will dress from 3/8″ to 8″ thick.

THE FRAME is long, heavy and rigidly constructed. Built to stand any strain which may be put upon it.

THE FEED consists of six 9½″ rolls. The top infeeding rolls are divided into two sections, and so arranged internally that while placed on a straight shaft, they have, singly or combined, the feed power of a solid roll, yet each section will yield to the unequal thicknesses of the board, consequently two boards of varying thickness can be surfaced at the same time with equal pressure on both. All pressure is governed by springs, a method we have long used with marked success.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel, slotted on two sides and tapped on two sides, each carrying two knives, which are interchangeable. The journals are 2½″ in diameter, and run in long self-oiling boxes.

THE UPPER AND LOWER CYLINDER BOXES are yoked both in front and behind the cut, making it impossible for the boxes to get out of alignment. The upper cylinder yoke is clamped by means of levers, keeping the yoke firmly in place without the use of a wrench. This clamping device provides for the quick correction of lost motion. The lower cylinder boxes are three in number, yoked together, and are adjustable for variation in cut. The box next to the pulley has special take-up arrangement should it wear faster than the others.

THE PRESSURE BARS over the under head may be easily lifted out, thereby giving easy access for setting or filing the knives, and can be replaced without requiring any extra adjustment.

THE TOP CHIP BREAKERS AND PONY ROLLS are divided, each section acting independently. The sectional chip breakers are set very close to the line of cut.

THE PLATE under the cut of the top cutter-head is secured to the cutter-head bed by bolts underneath the bed; should the plate wear after long and hard usage, it may be easily removed, planed up and replaced on the machine.

Two counterbalanced binders are used for the upper cylinder belt (which should be endless), thus imparting a very strong, positive and steady motion, thereby making a fast feed possible.

There are four regular rates of feed—40, 60, 80 and 100 lineal feet per minute.

We furnish with each machine two knives for each cylinder and necessary wrenches.

Countershaft has T. & L. (self-oiling loose) pulleys, 16″ x 10″; speed, 1,000.

BELTING REQUIRED.

Two belts for upper cylinder, each 21′ 7½″ long, 6″ wide.
One belt for lower cylinder, 26′ long, 6″ wide.
One belt for feed, 18′ 10″ long, 4″ wide.

Fig.	Size	Floor Space	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
715	No. 8, 30 x 8----	14′ 8″ x 10′ 6″	10 to 12	11,000	12,000	465	**Bovip**
716	No. 8½, 26 x 8----	14′ 8″ x 10′ 2″	10 to 12	10,400	11,400	440	**Boxbalm**

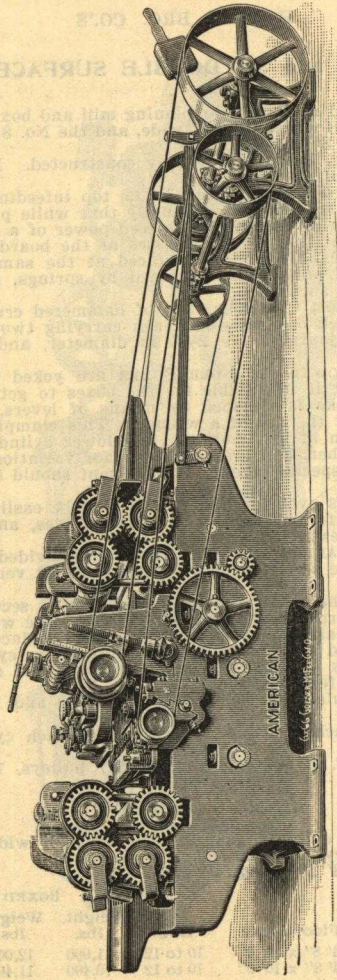


Fig. 7161 American Nos. 45 and 46 Double Surfacers.

AMERICAN

Nos. 45 and 46 DOUBLE SURFACERS.

These machines are built in two sizes, to work 26″ or 30″ wide and from ⅛″ to 8″ thick. Stock as short as 12″ in length can be readily surfaced.

THE FRAMES are heavy and substantially ribbed, combining attractive design with strength and durability.

THE FEED consists of four 9½″ rolls powerfully geared, spring pressure, and fitted with our parallel lift. Special attention is called to in-feeding top roll, which is divided into six sections which are so arranged internally that while they are all placed on a straight shaft, they have, singly or combined, the feeding power of a solid roll, and yet each section will yield to the unequal thicknesses of the boards. Six pieces of lumber of varying thickness may be fed to the machine at the same time, with perfect pressure on all. These sectional rolls are simple in construction, yet very powerful. All pressure is governed by springs, a method we have long used with marked success.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel and are interchangeable. They have a cutting circle of 6¾″, carrying two knives, 3¾″ wide. They are slotted on two sides and tapped on two sides. The journals are 2½″ in diameter and run in self-oiling boxes 11″ long. The pulleys are set within ⅛″ of bearings.

THE UPPER AND LOWER CYLINDER BOXES are yoked both in front and behind the cut, making it impossible for the boxes to get out of alignment. The upper cylinder yoke is clamped by means of hand levers, keeping the yoke firmly in place without the use of a wrench. This clamping device provides for the quick correction of lost motion. It has also an independent leveling device whereby it can be quickly lined up to and with the bed of the machine. The lower cylinder yoke draws out on the operating side of the machine.

THE TOP CHIP BREAKERS and pony rolls are made in six sections, each section acting independently. The sectional chip breakers which lay very close to the line of cut are provided with steel points, which are easily replaced in case of need.

THE OUT-FEEDING PRESSURE BAR for the top cylinder is operated by hand wheels, which can be adjusted while the machine is in motion. This bar is made to yield, but sufficient tension can be given to it so as to hold the stock firmly to the bed. The pressure bed over the lower cylinder is attached to the upper cylinder yoke and is adjustable by means of hand wheels. The rear lower cylinder pressure bar is made yielding, but can be removed from the yoke without the use of a wrench.

ALL DRIVING GEARS AND PINIONS are mounted on shafts which run in self-oiling boxes lined with the best metal. They are heavy and strong, allowing a wide range of feed.

There are four rates of feed—40′, 50′, 60′ and 80′ per minute.

We furnish with each machine two knives for each cylinder and necessary wrenches.

The countershaft has T. & L. (self-oiling) pulleys, 14″ x 8″; speed, 1,000.

BELTING REQUIRED.

Two belts for upper cylinder, 24′ 10″ long, 5″ wide.
Two belts for lower cylinder, 20′ 9′ long, 5″ wide.
One belt for feed, 20′ long, 3″ wide.

Fig.	Size	Floor Space	H.P.	BOXED FOR EXPORT Weight, lbs.	Weight, lbs.	Cubic ft.	Code
7161	No. 45, 30″ x 8″	15′ ½″ x 8′ 10″	7 to 12	9,000	9,800	218	**Boxbatch**
7162	No. 46, 26″ x 8″	15′ ½″ x 8′ 6″	7 to 12	8,500	9,200	203	**Boxdusto**

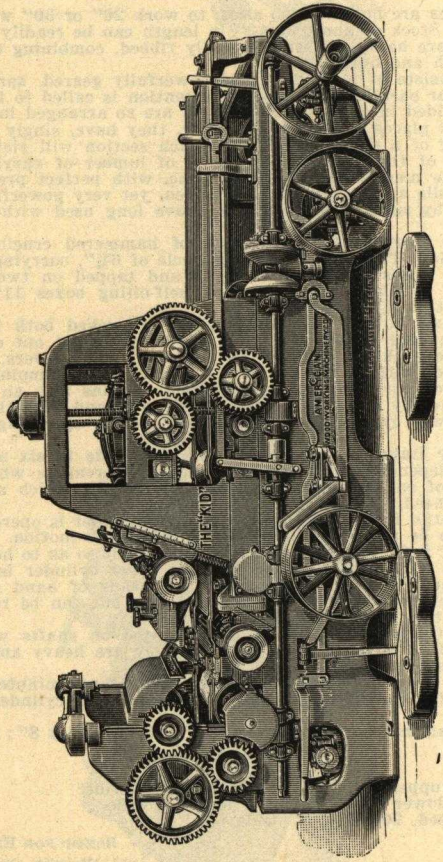


Fig. 717 Glen Cove "Kid" Double Surfacer.

GLEN COVE MACHINE CO.'S

"KID" HEAVY DIVIDED ROLL DOUBLE SURFACER.

Will dress from ⅜" to 14" in thickness and up to 30" in width on two sides at one operation. The massive proportions of this machine, its strength, simplicity and accessibility of all its parts, will attract the attention of every mill man. The entire hoist from ⅜" to 14" is accomplished in one minute. The feed consists of six large rolls, driven by powerful gearing.

The lower bed, cutter head, etc., are stationary, while the upper head and rolls are raised and lowered by a single motion of the lever at the work side of the machine.

The head and rolls are each independent of the other in their adjustment for "lining up" and are connected with a single hoisting device for the quick adjustment of the machine for different thicknesses. The divided top infeeding rolls work in slides and are controlled by springs to the extent of an inch before the frame can rise. Should an extra thick piece of timber pass through the machine it will act only on the rolls driving it, and when those have gone their entire limit of independent action the whole frame will rise with an increased pressure.

The action of one set of rolls does not interfere with the other set, as their pressure springs will keep them down to the bottom of the ways.

Machine is now fitted with cone feed pulleys with friction clutch to stop and start the feed, three changes of feed being secured by shifting belt on cones and three additional changes by exchange of cones on counter, giving feed of 25', 32', 42', 44', 53', and 60', respectively, per minute.

The bottom cutter head yoke is so arranged that by loosening the heavy clamp bolts it may easily be drawn out at operator's side of the machine, for access to the head and knives.

Each machine is furnished with full set of knives for cylinders and necessary wrenches.

Countershaft has T. & L. pulleys, 16" x 10"; speed, 1,000.

BELTING REQUIRED.

Two belts for top cylinder, each 20' 3" long, 6" wide.
Two belts for bottom cylinder, each 16' 9" long, 5" wide.
One belt for fast feed, 18' 4" long, 4" wide.
One belt for slow feed, 17' 11" long, 4" wide.
One endless belt, 10' 4" long, 4" wide.
One belt, 10' 8" long, 4" wide.

					Boxed for Export		
Fig.	Size	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
717	30" x 14" ____	12' 4½" x 11' 2"	15	14,300	15,500	300	Boxel

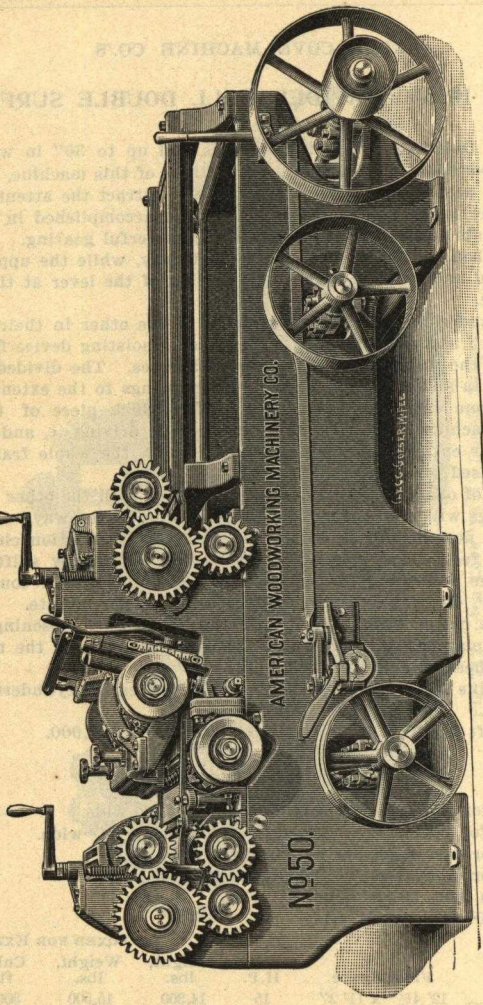


Fig. 7171 American No. 50 Double Surfacer.

AMERICAN

No. 50 DOUBLE SURFACER.

STANDARD DOUBLE SURFACER, works 26" wide by 8" thick; built from new designs, especially for box and shook work, with table as short as practicable for length of belts, to allow short pieces to be handled easily.

THE FEED consists of four rolls, operated by improved expansion gearing attached to shafts working in self-oiling boxes. The top feeding-in roll is divided. All four rolls are weighted and fitted with parallel lift, which prevents the breaking of the gears when taking a heavy cut. The sections of the divided roll rise perfectly true, and each roll is operated by one screw, doing away with all bevel gearing and leaving all parts easy of access. The divided roll permits the feeding of unevenly sawed lumber or two boards of different thickness at one time.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel, carrying three knives, and slotted to allow knives with any number of slots to be used. They are belted at both ends, with pulleys to carry belts sufficiently wide for heaviest cuts, and placed as near together as possible to allow belts to clear on the thinnest stock.

BOTTOM CYLINDER YOKE is so arranged that by loosening the heavy clamp bolts it may easily be drawn out at side of the machine for access to the head and knives.

THE DIVIDED PRESSURE BARS or chip breakers before the top cut are adjustable to work as near cutting edge of knife as safety will permit. The pressure bar after the cut is stationary, and acts as a pressure bar over the under cylinder.

THE PLATE under the cut of the top cutter head is secured to the cutter head bed by bolts from underneath the bed. Should the plate wear after long and hard usage, it may be removed by loosening these bolts, planed up and replaced on the machine.

THE EXPANSION GEAR SYSTEM is of most modern construction, heavy and strong, allowing wide range of feed. There are four rates of feed—32', 48', 64' and 80' per minute—or any rates desired can be furnished.

BOTTOM CYLINDER is provided with spout to deliver shavings to exhaust fan or elsewhere, and piping can be attached to cover the top cylinder.

THE BOXES are connected by yoke arranged to tighten both sides by one movement of the lever on working side of machine.

We furnish with each machine three knives for each cylinder and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 8"; speed, 1,000.

BELTING REQUIRED.

Two belts for top cylinder, each 17' 4" long, 4" wide.
Two belts for bottom cylinder, each 12' 10" long, 4" wide.
One belt for feed shaft with 8" pulley, 17' long, 3" wide.

				BOXED FOR EXPORT		
Fig.	Size	Floor Space	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
7171	26" x 8"----	9' 9½" x 8' 9"	6,550	7,550	200	**Boxfetto**

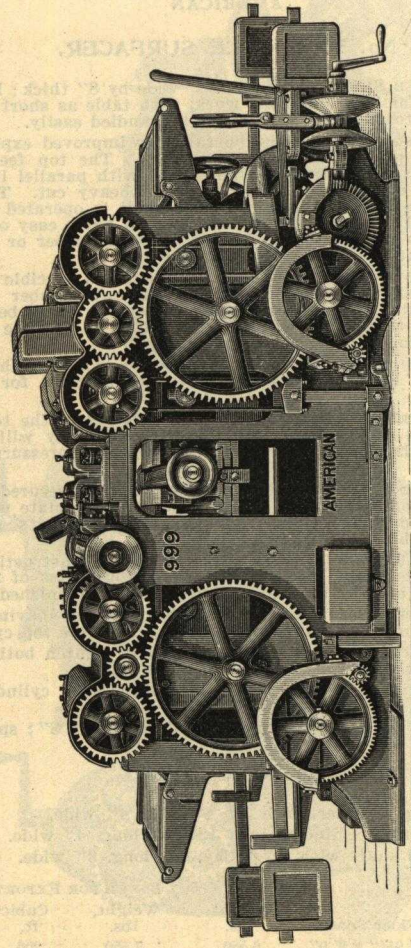


Fig. 718 Rogers "999" Double Surfacer.

C. B. ROGERS & CO.'S

"999" and "999 Jr." HEAVY DOUBLE SURFACERS.

A heavy machine designed for planing mills, sash, door and blind, furniture and cabinet factories. Built in six sizes, to work 26" and 30" wide by 8", 10" or 12" thick.

While these machines are built to take stock up to 12" thick, the special value of the various adjustments is best appreciated in shops where quantity and quality are important items in dressing the thinner classes, quick changes and wide range of feed being prominent features.

THE FRAME is very heavy and rests on broad flanges, firmly supporting the machine and preventing vibration.

THE FEED consists of eight rolls, driven by heavy gearing, giving a powerful feed. The two upper rolls before the cut are divided to admit the surfacing of unevenly sawed lumber.

THE TOP AND BOTTOM CYLINDERS are of hammered crucible steel, lipped and slotted, carrying three knives. The journals are long and large in diameter, being yoked across the machine and running in self-oiling boxes, lined with the best metal.

THE BOTTOM CYLINDER is placed in front of the upper cylinder. The adjustments for the cut of this lower head are accomplished by the use of an auxiliary bed, but adjusted independently of it. This adjustment is made by means of a hand wheel at the feeding-in end of the machine. This is entirely independent of the adjustment for thickness.

The main bed for this purpose is raised or lowered by a power friction device, which raises the bed 8" in one minute.

THE BOTTOM CYLINDER YOKE is so arranged, by loosening the heavy clamp bolts, it may be easily drawn out on either side of the machine for access to the head or knives.

CHIP BREAKERS AND PRESSURE BARS are all adjustable, and there is a flexible but ample pressure over the lower head.

THE EXPANSION GEAR SYSTEM is of most modern construction, giving an exceptionally powerful feed and allowing a wide range of same. The rates of feed are 33', 44', 55' and 66' per minute on all machines, or can furnish other rates if desired.

We furnish with each machine three knives for each cylinder, two countershafts and necessary wrenches.

All countershafts have T. & L. (self-oiling) pulleys, 14" x 8"; speed for "999s," 1,000; speed for "999" Juniors, 875.

Fig.		Size	Floor Space	H.P.	BOXED FOR EXPORT Weight, lbs.	Weight, lbs.	Cubic ft.	Code
718	"999,"	30" x 12"	13' 7" x 7' 10"	10 to 15	12,600	13,500	275	**Boxine**
719	"999,"	30" x 10"	13' 7" x 7' 10"	10 to 15	12,600	13,500	275	**Boxofice**
720	"999,"	26" x 12"	13' 7" x 7' 6"	10 to 15	12,300	13,200	275	**Boxolcra**
721	"999,"	26" x 10"	13' 7" x 7' 6"	10 to 15	12,300	13,200	275	**Boxorado**
722	"999 Jr.,"	30" x 8"	12' 4" x 7' 9"	8 to 10	11,300	12,200	260	**Boxorel**
723	999 Jr.,"	26" x 8"	12' 4" x 7' 5"	8 to 10	10,900	11,800	260	**Boxsuffle**

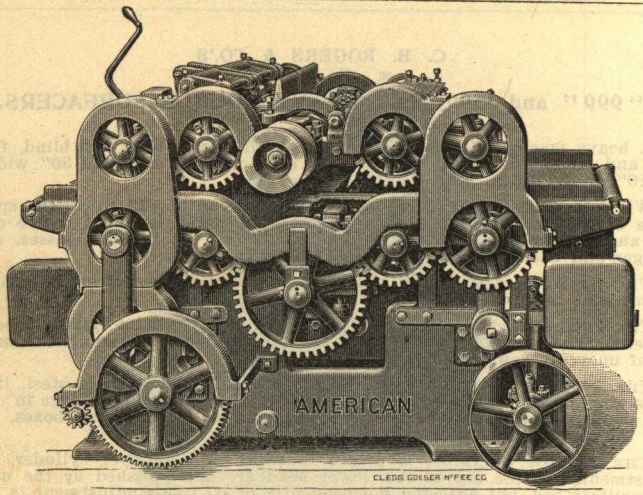


Fig. **7231** American No. 15 Double Surfacer.

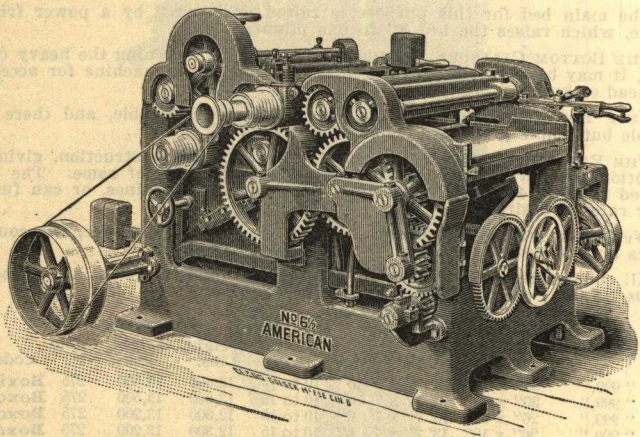


Fig. **733** Clement No. 6½ Double Surfacer.

AMERICAN

No. 15 DOUBLE SURFACER.

Built in two sizes, to work 26″ or 30″ wide by 8″ thick.

THE BED raises and lowers by means of four large screws.

THE FEED consists of four 6″ rolls, weighted, driven by heavy gearing.

THE TOP IN-FEED ROLL is divided, has parallel lift.

THE TOP AND BOTTOM CYLINDERS are three sided, 6″ diameter.

THE BOTTOM CYLINDER is carried in heavy yoked boxes, clamped rigidly, and has vertical adjustment. The lower delivery roll is carried on the same casting, requiring no independent adjustment in changing from a double to a single surfacer.

THE CHIP BREAKER is made in four sections, each of which rises 1″ independently in addition to the indefinite movement of the whole bar.

THE PRESSURE BAR of the upper cylinder forms the bed plate for the lower cylinder and is adjustable by one hand wheel.

There are three rates of feed—41′, 62′ and 82′ per minute.

We furnish three knives for each cylinder and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14″ x 8″; speed, 875.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
7231	No. 15, 30 x 8__	10′ 3″ x 6′ 2″	12 to 15	7,200	7,600	105	**Boxtibega**
7232	No. 15, 26 x 8__	10′ 3″ x 5′ 10″	12 to 15	7,000	7,400	100	**Boxticum**

F. H. CLEMENT CO.'S

No. 6½ HEAVY DOUBLE SURFACER.

A heavy six-roll planer for fine work; frame is unusually heavy and rigid, with main floor bearings directly under upper cylinder; bed is on solid inclines, operated by double screws and cut gearing; all bed plate sections are detachable for replaning; cylinders are solid, hard steel forgings, with ground journals 10″ x 2⅛″, self-oiling side clamping boxes and pulleys at both ends of upper one; all six rolls are geared, the first pair of driving gears being cut; upper in-feed roll is geared at both ends and usually fluted; rolls have steel shafts and babbitt boxes; under cylinder adjusts on separate inclines, and its yoke draws out sidewise to sharpen knives; four speeds of feed are available, from 16′ to 50′, or more if needed, and two changes are instantaneously variable by a self-locking lever; either a divided or a sectional roll can be supplied, and, if needed, a sectional chip breaker, all at an extra charge; main countershaft can hang overhead or underneath the planer; a sub-counter drives lower cylinder; belts to cylinder are 4½″ wide. Each machine supplied with two knives for each cylinder and necessary wrenches. Will work from 1-16″ to 7″ thick.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 8½″; speed, 850.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
733	36 x 7, Solid Roll..	6′ 3″ x 10′	7 to 10	8,300	9.600	160	**Bracone**
734	36 x 7, Div. Roll___	6′ 3″ x 10′	7 to 10	8 300	9,600	160	**Brage**
735	36 x 7, Sect. Roll__	6′ 3″ x 10′	7 to 10	8,300	9,600	160	**Brahorse**
736	30 x 7, Solid Roll__	5′ 9″ x 10′	6 to 9	7,850	9.100	142	**Bramament**
737	30 x 7, Div. Roll___	5′ 9″ x 10′	6 to 9	7.850	9,100	142	**Bramanatic**
738	30 x 7, Sect. Roll..	5′ 9″ x 10′	6 to 9	7,850	9.100	142	**Bramare**
739	27 x 7, Solid Roll__	5′ 6″ x 10′	5 to 8	7,600	8 800	130	**Bramaveto**
740	27 x 7, Div. Roll___	5′ 6″ x 10′	5 to 8	7,600	8.800	130	**Bramerite**
741	27 x 7, Sect. Roll__	5′ 6″ x 10′	5 to 8	7,600	8,800	130	**Bramiller**

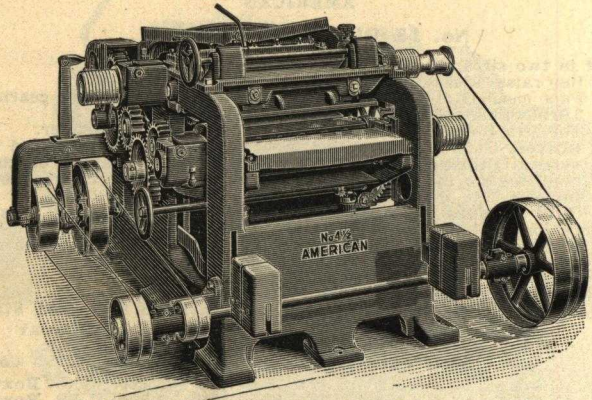


Fig. **745** Clement No. 4½ Double Surfacer.

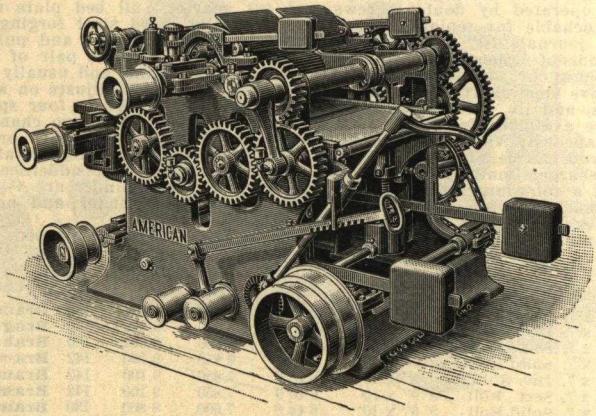


Fig. **754** Lehman Double Surfacer

F. H. CLEMENT CO.'S

No. 4½ DOUBLE SURFACER.

Frame is massive and has floor bearings directly under main cylinder; cylinders are solid, hammered steel forgings, with ground journals 10″ x 2⅛″, self-oiling side clamping boxes and pulleys at both ends of upper one; there are four geared feed rolls with steel shafts pressed in and babbitted boxes; four speeds of feed are available, 16′ to 50′, or more, if wanted, and two changes are variable by a lever; pressure bars hang very close together and are adjustable; main bed raises on inclines with screw adjustment; lower cylinder is adjustable to the cut, and its bed plate is also adjustable by one hand wheel; delivery plate can be adjusted to the knives or removed for access to knives; main countershaft can hang above or underneath the planer; subcounter drives the lower cylinder; either a divided or a sectional roll is furnished extra; sectional chip breaker also extra; belts to cylinders 4½″ wide. Will work from 1-16″ to 7″ thick.

Each machine supplied with two knives for each cylinder and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 8¼″; speed, 850.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
745	30 x 7 Solid Roll	6′ x 9′ 6″	6 to 9	6,500	7,500	130	**Brancardo**
746	30 x 7 Divided Roll	6′ x 9′ 6″	6 to 9	6,500	7,500	130	**Brancata**
747	30 x 7 Sectional Roll	6′ x 9′ 6″	6 to 9	6,500	7,500	130	**Branchung**
748	27 x 7 Solid Roll	5′ 9″ x 9′ 6″	5 to 8	6,200	7,100	122	**Brancobate**
749	27 x 7 Divided Roll	5′ 9″ x 9′ 6″	5 to 8	6,200	7,100	122	**Brancoby**
750	27 x 7 Sectional Roll	5′ 9″ x 9′ 6″	5 to 8	6,200	7,100	122	**Brancoso**
751	24 x 7 Solid Roll	5′ 6″ x 9′ 6″	5 to 8	5,800	6,700	114	**Brandepoke**
752	24 x 7 Divided Roll	5′ 6″ x 9′ 6″	5 to 8	5,800	6,700	114	**Brandiky**
753	24 x 7 Sectional Roll	5′ 6″ x 9′ 6″	5 to 8	5,800	6,700	114	**Branditto**

LEHMAN MACHINE CO.'S

DOUBLE AND SINGLE SURFACERS.

These machines are substantially built. The main weight is borne by the broad flanges directly under the cutter heads. The cutter heads are solid forged steel. The top head is four sides slotted, and driven by two belts; the under head has two slides slotted. The journals are of large diameter and long bearings.

THE FRONT PRESSURE BAR or chip breaker is adjustable to or from the cylinder to insure smooth working on either hard or soft wood.

THE PRESSURE BAR over under cylinder is adjustable and hinged to the frame, so that it may be swung up out of the way for sharpening or adjusting the knives.

THE FOUR FEED ROLLS are 6″ in diameter and are all driven. The machine will work from 1-16″ to 10″ in thickness. There are two rates of feed —40′ and 60′ per minute.

Each machine supplied with knives for cylinders and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 8″; speed, 900.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
754	30 x 10 Dble. Div. Roll	6′ 4″ x 6′ 8″	6 to 8	4,500	4,950	100	**Brandoko**
755	26 x 10 Dble. Div. Roll	6′ 4″ x 6′ 4″	6 to 8	4,200	4,600	100	**Brandon**
756	30 x 10 Sgle. Div. Roll	6′ 4″ x 6′ 8″	6 to 7	4,100	4,500	100	**Brangus**
757	26 x 10 Sgle. Div. Roll	6′ 4″ x 6′ 4″	6 to 7	3,850	4,150	100	**Brano**

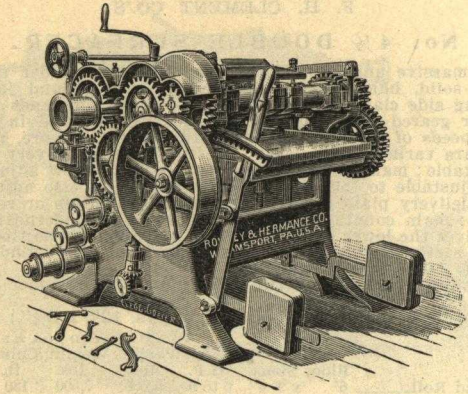


Fig. 759 Rowley & Hermance "Peacemaker" Double Surfacer.

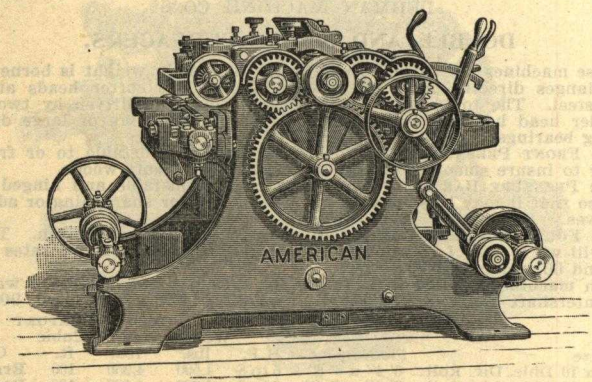


Fig. 762 Rogers No. 12 Double Surfacer.

ROWLEY & HERMANCE CO.'S

"PEACEMAKER" DOUBLE AND SINGLE SURFACERS.

Built as double or single surfacer, with solid or divided infeeding roll. The illustration represents the double surfacer with the divided roll. A heavy, strong and compact machine for smooth and rapid work. Will plane from ⅛" to 8" thick. Top and bottom heads solid steel forgings tapped on two sides. Top head belted at both ends. The bed is held very rigidly. Chip breakers and pressure bar are carefully fitted. There are four feed rolls, strongly geared. Pressure bar over the under head raises and lowers by hand wheel. There are two rates of feed, 45' and 64'.

Floor space of double surfacer, 5' 5" x 6' 3"; for single surfacer, 5' 5" x 5' 1". Each machine supplied with two 26" knives for each cylinder and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 8"; speed, 900.

Fig.		H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
758	26 x 8 Dble. Surf., Solid Roll..	4 to 7	3,300	3,780	108	**Branoboy**
759	26 x 8 Dble. Surf., Div. Roll..	4 to 7	3,500	3,980	108	**Brasca**
760	26 x 8 Sgle. Surf., Solid Roll..	3 to 5	2,700	3,180	95	**Brascatto**
761	26 x 8 Sgle. Surf., Div. Roll..	3 to 5	2,900	3,380	95	**Braser**

C. B. ROGERS & CO.'S

No. 12 DOUBLE AND SINGLE SURFACERS.

Built as double or single surfacer, with solid or divided roll; works 24" wide and 6" thick. A very substantial machine, an excellent tool for general shop purposes; has good, strong frame, well spread out at the base; cylinders babbitted in heavy boxes and the lower cylinder boxes yoked, upper ones practically yoked, as they are a part of the frame itself. Cylinders are of good size, made for either three or four knives and slotted, upper one belted both ends. Pressure bars and chip breakers are all adjustable and pressure bar over lower cylinder and toe piece at the end of the machine swing to admit of easy access in setting and sharpening lower knives. Feed is strong, all four rolls being driven and geared back to cause but slight strain on the feed belt, feed being stopped and started by tightener and supplied with three changes of feed, 16', 23' and 31', by means of cone feed pulleys. The double surfacer is furnished with two countershafts, one for the top cylinder and a short one for driving the lower cylinder, which must be placed on the floor about 6' between centers. Each machine supplied with three 24" knives for each cylinder and necessary wrenches.

Floor space of double surfacers, 10' 11" x 5' 11"; for single surfacers, 5' 9" x 4' 11".

Countershaft has T. & L. (self-oiling) pulleys, 12" x 6"; speed, 900.

Fig.		H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
762	24 x 6 Dble. Surf., Solid Roll..	4 to 7	3,100	3,700	120	**Brasoda**
763	24 x 6 Dble. Surf., Div. Roll..	4 to 7	3,300	3,900	120	**Brassard**
764	24 x 6 Sgle. Surf., Solid Roll..	3 to 5	2,700	3,300	120	**Brassleigh**
765	24 x 6 Sgle. Surf., Div. Roll..	3 to 5	3,100	3,700	120	**Bravare**

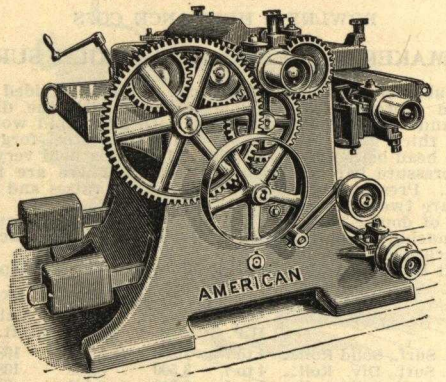


Fig. 766 Williamsport No. 4 Double Surfacer.

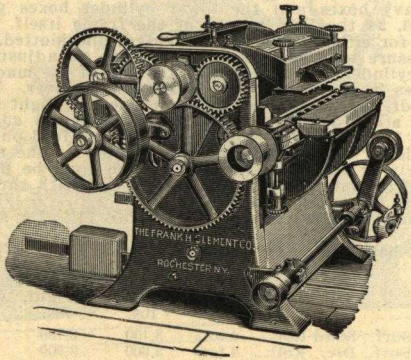


Fig. 768 Clement No. 3 Double Surfacer.

WILLIAMSPORT MACHINE CO.'S

No. 4 DOUBLE AND No. 3 SINGLE SURFACERS.

Built as a single or double surfacer to work from ⅛" to 8" thick and 24" wide. The frame is one solid casting. There are four feed rolls, the upper two of which are driven. The front top roll is fluted, weighted, and geared at both ends. Chip breaker and pressure bar are carefully fitted. Cylinders are made from steel forgings, four sided, tapped on two sides, top cylinder is belted at both ends. There are two changes of feed, 22' and 35' per minute. There is a tightener on feed belt, also adjusting crank and attachment for stopping the feed, handy to the operator. Gearing is strong, belts well proportioned and bearings of unusual length. Table is gibbed to the main frame and is provided with loose gib for taking up the wear, preventing the planer from clipping the ends. With each machine is furnished two 24" knives for each cylinder and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 6"; speed, 900.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
766	No. 4, 24 x 8 Dble. Surf.	4' 10" x 4' 8"	7	2,800	3,100	90	**Bravatik**
767	No. 3. 24 x 8 Sgle. Surf.	4' 10" x 4' 8"	5	2,400	2,700	90	**Bravatolo**

F. H. CLEMENT CO.'S

No. 3 DOUBLE SURFACER.

Adapted to general planing from 1-16" to 7" thick, but especially to chair and furniture work; frame is heavy and rigid, with three points of bearing on the floor; bed is 12" deep and has 15" bearings on the outside of the frame; cylinders are solid steel forgings with ground journals, 9" x 2" and 7" x 1¾", three sided, tapped; upper one is driven at both ends; under one is adjustable to cut by one hand wheel; the four feed rolls are all geared with three variations of speed on the cones, 16' to 40'; pressure bars are adjustable for replaning; delivery bed is detachable for access to under cylinder; either a plain, fluted, or divided or sectional roll—latter two extra; a sub-countershaft drives the lower cylinder, and the main counter can hang overhead or underneath the planer. Each machine supplied with three knives for each cylinder and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 8¼"; speed, 850.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
768	30 x 7 Solid Roll	5'8" x 8'6"	5 to 8	4,250	5,100	86	**Bravity**
769	30 x 7 Divided Roll	5'8" x 8'6"	5 to 8	4,250	5,100	86	**Bravoco**
770	30 x 7 Sectional Roll	5'8" x 8'6"	5 to 8	4,250	5,100	86	**Bravoleta**
771	26 x 7 Solid Roll	5'4" x 8'6"	4 to 7	3,850	4,800	81	**Bravonogag**
772	26 x 7 Divided Roll	5'4" x 8'6"	4 to 7	3,850	4,800	81	**Brayet**
773	26 x 7 Sectional Roll	5'4" x 8'6"	4 to 7	3,850	4,800	81	**Braym**

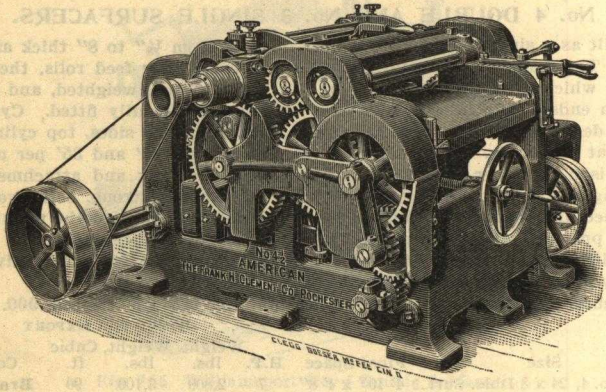


Fig. 774 Clement No. 4 Single Surfacer.

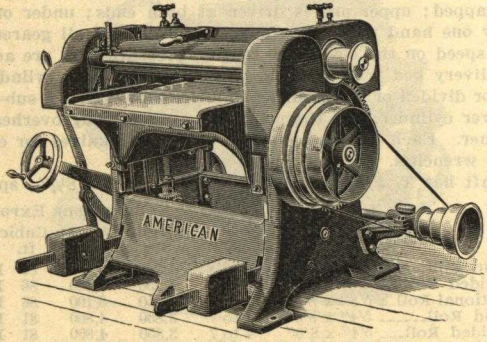


Fig. 786 Clement No. 3 Single Surfacer.

F. H. CLEMENT CO.'S

No. 4½ SINGLE CABINET SURFACER.

Frame is massive and has main floor bearings directly under the cylinder boxes; cylinder is a solid steel forging with ground journals 10″ x 2⅛″, self-oiling side clamping boxes and pulleys at both ends; upper in-feed roll is fluted and geared at both ends. All rolls are driven. Four speeds of feed are available, from 16′ to 50′, or more if wanted, and two speeds are instantaneously variable by a lever; all rolls have steel shafts and babbit boxes; pressure bars hang close together and are adjustable; main bed raises on inclines with screw adjustment; all sections of bed plate may be removed for replaning; outside gears are covered; either a divided or a sectional in-feed roll can be supplied as an extra; sectional chip breaker also extra; the countershaft can hang overhead or underneath the planer; belts to cylinder are 4½″. Two knives furnished for cylinder and necessary wrenches. Works from 1-16″ to 7″ thick.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 7¼″; speed, 850.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
774	36 x 7 Solid Roll	6′6″ x 5′4″	5 to 7	6,000	6,700	144	**Breanticol**
775	36 x 7 Divided Roll	6′6″ x 5′4″	5 to 7	6,000	6,700	144	**Breccia**
776	36 x 7 Sectional Roll	6′6″ x 5′4″	5 to 7	6,000	6,700	144	**Breckang**
777	30 x 7 Solid Roll	6′ x 5′4″	5 to 7	5,500	6,200	130	**Brecket**
778	30 x 7 Divided Roll	6′ x 5′4″	5 to 7	5,500	6,200	130	**Brecourt**
779	30 x 7 Sectional Roll	6′ x 5′4″	5 to 7	5,500	6,200	130	**Brectorum**
780	27 x 7 Solid Roll	5′9″ x 5′4″	4 to 6	5,200	5,900	122	**Bredaler**
781	27 x 7 Divided Roll	5′9″ x 5′4″	4 to 6	5,200	5,900	122	**Bredolga**
782	27 x 7 Sectional Roll	5′9″ x 5′4″	4 to 6	5,200	5 900	122	**Bredos**
783	24 x 7 Solid Roll	5′6″ x 5′4″	4 to 6	4,800	5,500	114	**Brelanamo**
784	24 x 7 Divided Roll	5′6″ x 5′4″	4 to 6	4,800	5,500	114	**Brelandex**
785	24 x 7 Sectional Roll	5′6″ x 5′4″	4 to 6	4,800	5,500	114	**Brelotis**

F. H. CLEMENT CO.'S

No. 3 SINGLE SURFACER.

Adapted to general shop work, but especially to chair and furniture factories; frame is heavy and rigid, with three points of bearing on the floor; bed is 12″ deep with 15″ bearings on the outside of frame; bed plate is removable for replaning; cylinder is a solid steel forging with ground journals 9″ x 2″, three sided, tapped, and pulleys at both ends for 4″ belts; upper in-feed roll is usually fluted and geared at both ends; all rolls are geared and have three variations of feed, 16′ to 40′, or more; pressure bars are adjustable; either a divided or a sectional feed roller can be furnished as an extra; counter has self-oiling loose pulley, and it can hang overhead or underneath the planer. Three knives furnished for cylinder and necessary wrenches.

Works from 1-16″ to 7″ thick.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 7¼″; speed, 850.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
786	30 x 7 Solid Roll	5′8″ x 4′9″	4 to 6	3,100	3,700	83	**Bremdemit**
787	30 x 7 Divided Roll	5′8″ x 4′9″	4 to 6	3,100	3,700	83	**Bremeda**
788	30 x 7 Sectional Roll	5′8″ x 4′9″	4 to 6	3.100	3.700	83	**Bremhite**
789	26 x 7 Solid Roll	5′4″ x 4′9″	3 to 5	2,800	3,400	78	**Bremolfag**
790	26 x 7 Divided Roll	5′4″ x 4′9″	3 to 5	2,800	3,400	78	**Brenape**
791	26 x 7 Sectional Roll	5′4″ x 4′9″	3 to 5	2,800	3,400	78	**Brenbolt**

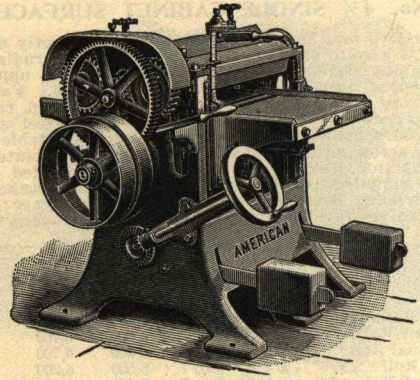


Fig. 792 Clement No. 1 Planer and Smoother.

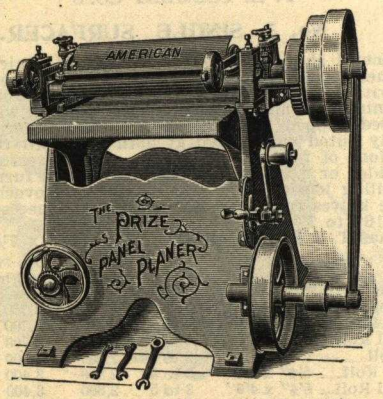


Fig. 795 Rowley & Hermance Pony Planer.

F. H. CLEMENT CO.'S

No. 1 PLANER AND SMOOTHER.

Adapted to light work in either hard or soft wood; frame is heavy and has three points of bearing on the floor; bed is 8" deep and has 11" of bearing on outside of frame; cylinder is a solid steel forging with ground journals 7" x 1⅝", tapped, carrying two knives, and pulley for 4" belt; infeed roll is usually fluted and upper rolls are geared and have two rates of feed, 16' to 26', or more if wanted; pressure bars are adjustable; feed can be stopped or started by a lever. Knives for cylinder and necessary wrenches furnished.

These machines are all built to surface from 1-16" to 6" thick.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 5¼"; speed, 800.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
792	24 x 6	4' 6" x 3' 8"	2 to 4	1,800	2,100	57	**Brenotold**
793	20 x 6	4' 2" x 3' 8"	2 to 4	1,600	1,900	52	**Brenoval**
794	16 x 6	3' 10" x 3' 8"	2 to 4	1,400	1,700	47	**Brenway**

ROWLEY & HERMANCE CO.'S

"PRIZE" PONY OR PANEL PLANER.

For general use in door shops, box and furniture manufactories, etc.; for any kind of light work.

The Frame is cast in one piece. The design of the pyramid-shaped frame, base being wide, insures great strength.

Two Pressure Bars, one in front and one in the rear of the head, the front being hinged and weighted, is self-adjusting for different thicknesses; both bars are placed close to the head to prevent clipping or tearing out.

The Forged Steel Head, very small in diameter, makes it perfectly safe to run at a high rate of speed; it is tapped and carries two knives.

The Steel Scraper attached to the delivering roll prevents it from gumming and marking the lumber.

It will plane long or short stuff, even as short as 4", without clipping the ends, 18" or 24" wide, and from 1-16" to 6" thick. It has two geared feed rolls and two rates of feed, 22' and 32' per minute. Each machine supplied with knives for cylinder and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 6"; speed, 900.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
795	24 x 6	4' 9" x 3' 4"	2 to 3	1,650	2,000	52	**Brenwood**
796	18 x 6	4' 9" x 3'	2 to 3	1,450	1,800	52	**Breposter**

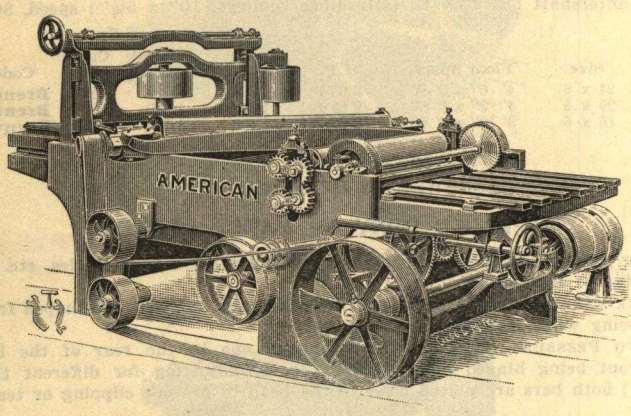


Fig. 799 Rowley & Hermance Diagonal Planer and Polisher.

ROWLEY & HERMANCE CO.'S

DIAGONAL PLANER AND POLISHER.

This machine will trim the wedges, plane and sandpaper doors, sash, blinds, shutters, base, door panels, casing, furniture, etc., without clipping out cross-grained places, splitting the corners or dubbing off the ends. It will work from ⅜" to 3" thick.

THE FRAME is of substantial construction.

THE FEED consists of two 5" rolls, both driven.

THE BED raises or lowers on inclines, allowing instantaneous change for different thicknesses of work.

THE PLANER HEAD is placed at an angle of 45°, which gives a uniformity of cut on the stiles and rails of door, sash and other work having the grain of the wood at different angles. It also insures a perfectly smooth surface regardless of knots or cross-grain places in the material being worked. It carries two ordinary planer knives. If desired, a cutter head can be added for jointing the edges.

THE POLISHING DISK is either 36" or 42" in diameter, according to the machine ordered. The sandpaper is fastened by means of steel segment frames and can be quickly and easily renewed.

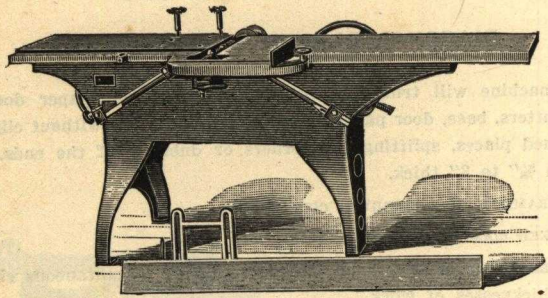
Two saws are provided at the feeding-in end of the machine for trimming the work to size.

There are two rates of feed, 16 and 20 lineal feet per minute.

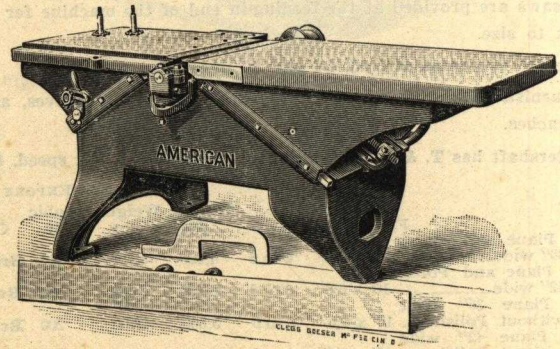
We furnish with each machine two saws, two planer knives, and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 7"; speed, 650.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
799	To Plane and Polish 36" wide	10' x 6'6"	4 to 6	4,500	5,700	240	**Brepugash**
7991	To Plane and Polish 42" wide	10' x 6'6"	6 to 8	5,400	6,600	284	**Brequad**
7992	To Plane 36" wide without Polisher	10' x 6'6"	3 to 5	3,500	4,700	200	**Brequefto**
7993	To Plane 42" wide without Polisher	10' x 6'6"	4 to 5	4,100	5,300	240	**Brequesic**



Figs. 800, 801



Figs. 802, 803, 804, 805 Clement Buzz Planers and Jointers.

F. H. CLEMENT CO.'S

"PERFECTION" BUZZ PLANERS AND JOINTERS.

A tool of the higher class, sold everywhere and in all kinds of wood shops. The frame is heavy and well braced against twisting, and has three points of bearing on the floor; table carriages have long bearings on the frame and are strongly ribbed, with continuous clamping gibs; the cutter head is a solid steel forging with long bearings and self-oiling boxes and has plain knives on two sides and slots on two sides; tables are 7' long, very heavy and well ribbed, and provided with steel lips next to the cylinder; they are adjusted and scraped to perfect alignment, and will remain so under fair usage indefinitely; an adjustable cross bar under short table permits hollow or "spring" joints; both tables can be drawn away from the cutter head 3½" to admit special knives, making a 7" opening.

Points: No links, shims, pin joints or eccentrics under tables; no twisting of frame or tables by uneven floors; no base flanges in way of operator; instantaneous adjustment of long table by operator at his post; accurate workmanship in all details.

SCHEDULE

Fig.	Works	T. & L. Pulleys	Speed	Shipping weight	Boxed weight	Cubic ft.
800	8"	8" x 3¾"	900	950	1,250	59
801	12"	8" x 4¼"	900	1,300	1,650	72
802	16"	8" x 4¼"	950	1,600	1,950	80
803	20"	9" x 4¼"	950	2,100	2,500	88
804	24"	10" x 5¼"	950	2,300	2,800	98
805	30"	10" x 5¼"	950	3,000	3,560	112

Fig.	Works	Floor Space	H. P.	Height to top of table	Code
800	8"	2' 5" x 7'	1	33"	**Brequin**
801	12"	2' 9" x 7'	1½	33"	**Bretto**
802	16"	3' 1" x 7'	2	32"	**Bretturem**
803	20"	3' 5" x 7'	2	32"	**Brevetter**
804	24"	3' 9" x 7'	3	31"	**Brevilda**
805	30"	4' 1" x 7'	4	30"	**Brevix**

EXTRAS

Fig.		Code
807	Rabbeting Table and Gauge	**Bribacole**
808	Spring Attachments, including four Dovetail Bolts for knives	**Bribare**

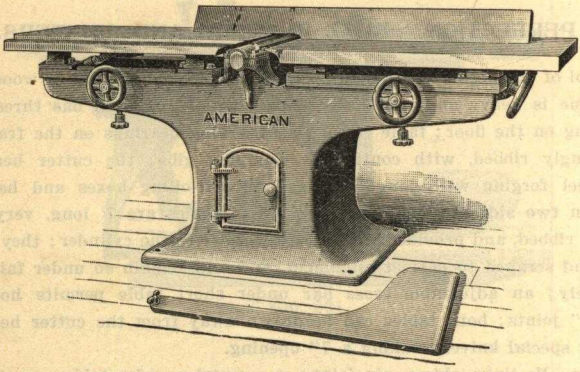


Fig. 809 Rowley and Hermance Buzz Planer and Jointer.

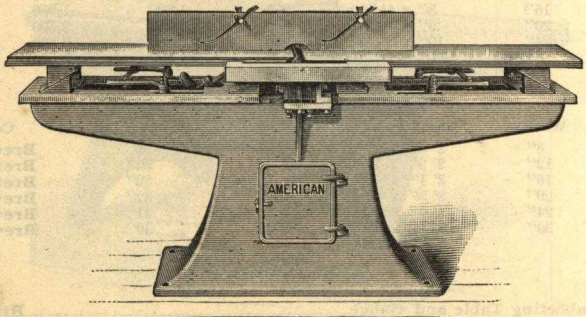


Fig. 813 Rogers Buzz Planer and Jointer.

ROWLEY & HERMANCE CO.'S

BUZZ PLANER AND JOINTER.

THE FRAME is cast in one piece. The tables are 7' long. Each table has an independent vertical adjustment, also an independent lateral adjustment of 7" each, to and from the path of the cutters.

Incline adjustment for raising and lowering the tables.

THE CYLINDER is of solid forged steel, provided with bolts on two sides for carrying straight knives, and slotted on the other two sides for carrying rabbeting and other odd knives.

It is provided with an adjustable gauge, which can be set square or at any desired bevel, also a wooden safety guard to prevent accidents to the fingers of the operators.

We furnish two knives for cylinder, and necessary wrenches.

Countershafts of 8", 12" and 16" machines have T. & L. pulleys 8" x 4"; countershaft of 24" machine has T. & L. (self-oiling) pulleys 8" x 4½"; all speeded at 780.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
809	8"	7' 3" x 2' 3"	1	1,050	1,350	35	**Bribet**
810	12"	7' 3" x 2' 7"	1½	1,300	1,600	45	**Briblace**
811	16"	7' 3" x 2' 11"	2	1 550	1,850	55	**Bricolta**
812	24"	7' 3" x 3' 7"	3	1,900	2,370	65	**Brider**

C. B. ROGERS & CO'S

BUZZ PLANER AND JOINTER.

These hand planers are made with substantial frame in pedestal form. tops are set on planed ways and tables both adjust to ½" cut, feeding on table adjusting by means of hand wheel at the side, feeding off table adjusting by means of hand wheel underneath. They may be drawn back to admit of easy access in setting or sharpening knives, and adjustment to cut is accomplished by means of inclines.

THE TOPS are planed perfectly true and faced with steel next the cut.

THE TABLES are 7" long, provided with an adjustable bevel gauge. A rabbeting table is supplied.

CYLINDERS are made from crucible steel slotted on two sides and with bolts tapped into the other two sides. These cylinders have large bearings in substantial boxes.

The cylinder boxes are yoked and are fitted up independent of the post, and so attached that they can be quickly lined up to the bed in case the box next the belt should wear faster than the other, or for any cause.

We furnish two knives and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys 10" x 4"; speed, 900.

Fig.	Size	Floor Space	H. P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
813	12"	7' x 34"	1½	1,700	2,100	72	**Bridexter**
814	16"	7' x 38"	2	1,850	2,250	78	**Bridong**
815	20"	7' x 42"	2	2,100	2,500	93	**Bridonly**

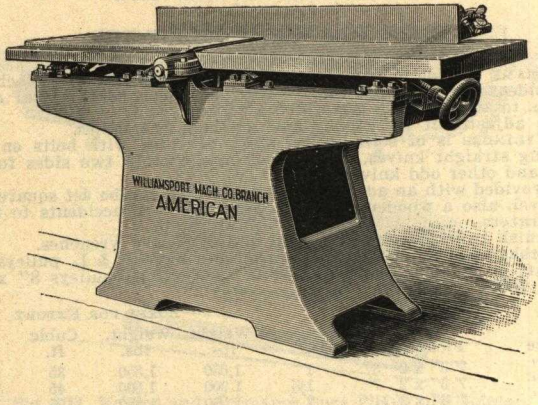


Fig. 816 Williamsport Buzz Planer and Jointer.

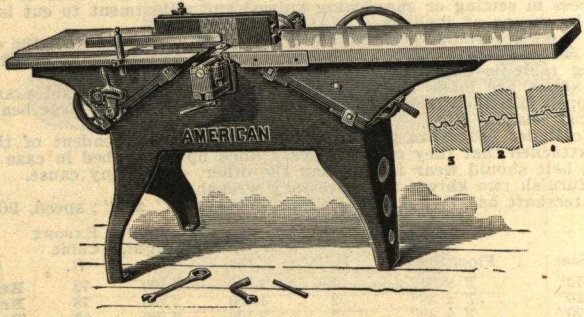


Fig. 820 Clement V Glue Jointer.

WILLIAMSPORT MACHINE CO.'S

BUZZ PLANER AND JOINTER.

This is a well built, carefully constructed machine in all its details, used for squaring, smoothing, grooving, beading, etc., producing excellent results.

THE FRAME is cast in one piece, making it solid and compact. The boxes are cast on the frame, allowing the cylinder to run at a high rate of speed without any jar or tremble.

THE CYLINDER is of steel, slotted on two sides. The long knives, being on the tapped sides, permit the use on the slotted sides of knives for grooving, beading, moulding, etc. The journals are long and of large diameter, running in babbitted boxes.

THE TABLES are 6′ long, planed perfectly true, and can be adjusted vertically or laterally, working on inclines to and from the cylinder regulated by hand wheel. They will open to give sufficient room for sharpening or setting the knives. This is done by loosening the hand wheel, which allows the tables to be moved back, without changing the height of same. The depth of the cut can be changed from 1-16″ to ½″ without stopping the machine. The rear table has a rabbeting groove.

We furnish with each machine complete gauge, two plain knives, bolts and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys 10″ x 4″; speed, 900.

Fig.	Size	Floor Space	H. P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
816	8″	2′ 2″ x 6′	1	800	1,100	35	**Brigo**
817	12″	2′ 6″ x 6′	1½	1,000	1,300	45	**Brigodyte**
818	16″	2′ 10″ x 6′	2	1,200	1,500	55	**Brigolla**
819	24″	3′ 6″ x 6′	3	1,400	1,870	65	**Brigondam**

F. H. CLEMENT CO.'S

8″ AND 12″ UNIVERSAL V GLUE JOINTERS.

Adapted to chair, furniture and other work from 6″ to 4′ long. Tables, frames and slides are same as in our "Perfection" buzz planers; main arbor is of cast steel with three self-oiling boxes, one of which is removable to change cutters; V joint heads are of the Shimer pattern; plain head is of steel with knives on two sides and slots on two sides; special two-sided gauge which is expansible is provided for V joints; side springs hold the stock up to the gauge, which accommodates crooked stock; cam under rear table gives hollow joint when wanted; plain bevel gauge supplied with plain jointer head when ordered as an extra.

Countershaft of 8″ machine has T. & L. (self-oiling) pulleys, 8″ x 3¾″. 12″ machine, T. & L. (self-oiling) pulleys, 8″ x 4¼″; both speeded at 900.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
820	8″ Glue Jointer	2′ 8″ x 7′	1	1,000	1,250	59	**Brigontale**
821	12″ Glue Jointer	3′ x 7′	1½	1,350	1,700	72	**Brigotary**
822	Plain Jointer Head and Gauge, extra						**Brigultica**

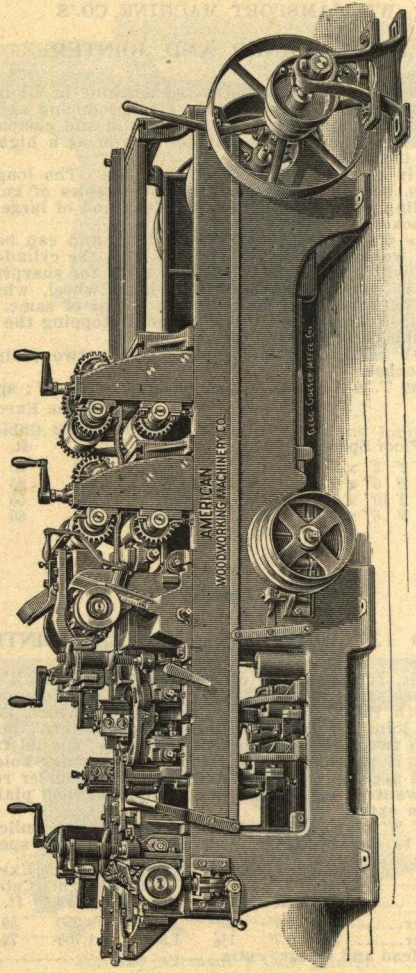


Fig. 826 Glen Cove Inside Moulder.

GLEN COVE MACHINE CO.'S

12″ AND 14″ INSIDE MOULDERS.

This machine embodies all the late improvements, is strong and substantial, intended for working heavy mouldings, hard wood flooring, matched and beaded ceiling, etc.

THE FEED is powerful, four large rolls, all geared on each end, weighted and fitted with our parallel lifting device, operated by one screw, having ball bearings. Springs are applied to hold stock to guide.

THE CYLINDERS are of hammered crucible steel forgings with four sides, lipped and slotted. Boxes are connected by yoke across machine. The top cylinder is adjustable vertically by crank and clamped in position on both cylinder posts from the operating side of the machine. Special attention is called to our adjustment of the bottom cylinder, which moves laterally and has parallel hoist. Both cylinders have a horizontal movement across the machine, to line to the cut without disturbing the vertical adjustment of the heads.

EXPANSION GEAR SYSTEM is of most modern construction, and allows operator to remove or replace any part in the quickest time possible. It dispenses with all loose gears, as they are attached to shafts which run in self-oiling boxes.

THE CHIP BREAKER for the top head is adjustable to work as near cutting edge of the knife as safety will permit and allow knives to project so as to cut 3″ deep.

PRESSURE BAR AND CHIP BREAKER for the lower head are adjustable for 3″ cut, clamping bolts being on top and easy of access.

SIDE SPINDLES tilt in either direction, are adjustable from both sides of the machine.

SIDE HEADS are of hammered crucible steel forgings with four sides, lipped and slotted, have the same swing and take the same knife and bolt as on top and bottom cylinders.

SIDE CHIP BREAKERS are adjustable to admit of 3″ cut. All bolts for making these adjustments are on top and easily accessible.

ADJUSTMENTS. All the short guides after the cut are adjustable across the machine, as well as to and from the cutters. The end of the bed swings down to admit of easy access to bottom head, and the plate after the cut adjusts itself to any change of cut of lower head. The plates that support the stock between side heads are adjustable for any depth of cut, and the side yokes and bars which support them are also adjustable vertically to compensate for any wear.

FRICTION CONE FEED gives three changes of speed and is stopped and started from feeding-in end, as well as at the side of the machine near the side heads. Extra cone giving six changes, furnished when ordered.

Three rates of feed, 14′, 20′, 27′ per minute, or can furnish any rate of feed desired.

We furnish with each machine two knives for each head and necessary bolts; one pair of matcher heads, or one pair of 6″ four-sided side heads, as desired, and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys 14″ x 6¼″; speed, 675.

BELTING REQUIRED.

Two belts for top cylinder, each 18′ 6″ long, 4″ wide.
One belt for bottom cylinder, 25′ long, 3½″ wide.
One belt for slow feed, 14′ 10″ long, 3″ wide.
One belt for R. H. side head, 21′ long, 3½″ wide.
One belt for L. H. side head, 19′ 8″ long, 3½″ wide.
One belt for fast feed, 15′ 6″ long, 3″ wide.

Fig.	Size	Floor Space	H.P.	BOXED FOR EXPORT Weight, lbs.	Weight, lbs.	Cubic ft.	Code
826	No. 80A, 14″ x 6″	12′ 7″ x 8′ 5″	10 to 12	7,200	8 000	200	**Brigultram**
827	No. 82A, 12″ x 6″	12′ 7″ x 8′ 3″	10 to 12	6,800	7,600	200	**Brilesco**

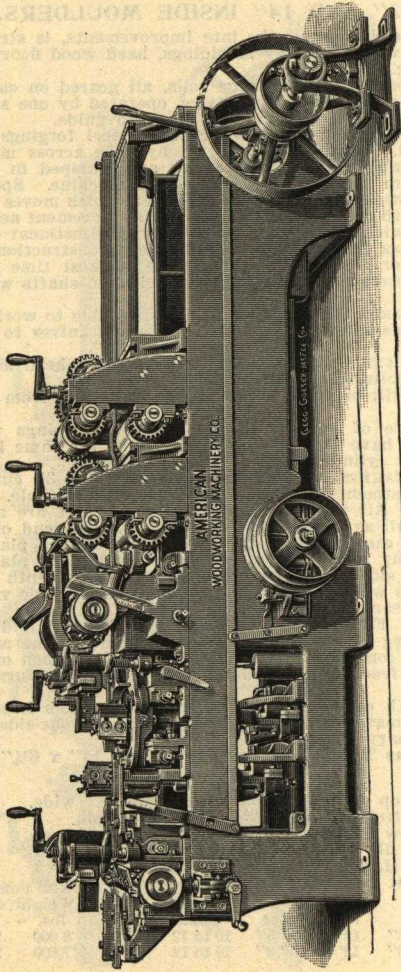


Fig. 828 Glen Cove Inside Moulder.

GLEN COVE MACHINE CO.'S

8″ AND 10″ INSIDE MOULDERS.

This machine embodies all the late improvements, is strong and substantial, intended for working heavy mouldings, hard wood flooring, matched and beaded ceiling, etc

THE FEED is powerful, four large rolls, all geared on each end, weighted and fitted with our parallel lifting device, operated by one screw, having ball bearings. Springs are applied to hold stock to guide.

THE CYLINDERS are of hammered crucible steel forgings with four sides, lipped and slotted. Boxes are connected by yoke across machine. The top cylinder is adjustable vertically by crang and clamped in position on both cylinder posts from the operating side of the machine. Special attention is called to our adjustment of the bottom cylinder, which moves laterally and has parallel hoist. Both cylinders have a horizontal movement across the machine, to line to the cut without disturbing the vertical adjustment of the heads.

EXPANSION GEAR SYSTEM is of most modern construction, and allows operator to remove or replace any part in the quickest time possible. It dispenses with all loose gears, as they are attached to shafts which run in self-oiling boxes.

THE CHIP BREAKER for the top head is adjustable to work as near cutting edge of the knife as safety will permit and allow knives to project so as to cut 1¾″ deep.

PRESSURE BAR AND CHIP BREAKER for the lower head are adjustable for 1¾″ cut, clamping bolts being on top and easy of access.

SIDE SPINDLES tilt in either direction, are adjustable from both sides of the machine.

SIDE HEADS are of hammered crucible steel forgings with four sides, lipped and slotted, have the same swing and take the same knife and bolt as on top and bottom cylinders.

SIDE CHIP BREAKERS are adjustable to admit of 1¾″ cut. All bolts for making these adjustments are on top and easily accessible.

ADJUSTMENTS. All the short guides after the cut are adjustable across the machine, as well as to and from the cutters. The end of the bed swings down to admit of easy access to bottom head and the plate after the cut adjusts itself to any change of cut of lower head. The plates that support the stock between side heads are adjustable for any depth of cut, and the side yokes and bars which support them are also adjustable vertically to compensate for any wear.

FRICTION CONE FEED gives three changes of speed and is stopped and started from feeding-in end, as well as at the side of the machine near the side heads. Extra cone giving six changes, furnished when ordered.

Three rates of feed, 14′, 20′ and 27′ per minute, or can furnish any rate of feed desired.

We furnish with each machine two knives for each head and necessary bolts; one pair of matcher heads, or one pair of 4″ four-sided side heads, as desired, and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys 12″ x 6¼″; speed, 675.

BELTING REQUIRED.

Two belts for top cylinder, each 16′ 11″ long, 4″ wide.
One belt for bottom cylinder, 22′ 6″ long, 3½″ wide.
One belt for R. H. side head, 19′ 5″ long, 3″ wide.
One belt for L. H. side head, 17′ 11″ long, 3″ wide.
One belt for feed, 13′ long, 3″ wide.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
828	No. 84B, 10″ x 4″	11′ 3½″ x 7′ 9″	8 to 10	5,400	6,000	190	**Brillex**
829	No. 86B, 8″ x 4″	11′ 3½″ x 7′ 7½″	8 to 10	5,150	5,750	180	**Brimfil**

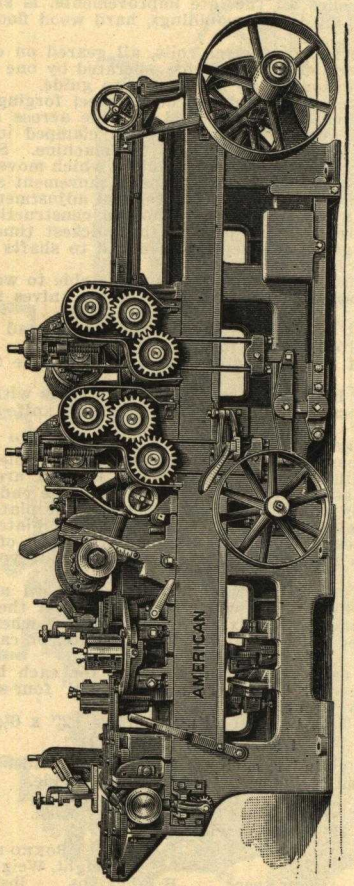


Fig. 830 Rogers No. 1 Inside Moulder.

C. B. ROGERS & CO.'S

No. 1 INSIDE MOULDER.

Heavy and thoroughly well adapted to the requirements of a general jobbing mill. So constructed that all the working parts are easily accessible, and all adjustments and changes quickly made. The pressure bars, guides, etc., have every convenient and necessary adjustment.

THE PRESSURES are so arranged that they can be swung up clear of the bed, so that in the change from one class of work to another the bed may be left absolutely clear from obstructions from the top cylinder out.

THE SUPPORTS for cylinder yokes are very heavy and firmly attached to planed seats on frame. Top and bottom heads have lateral adjustment and are also provided with parallel raising device.

THE CYLINDERS have large journals running in heavy connected boxes, are slotted on four sides. Top, bottom and side heads all take the same knife and bolt.

THE GUIDES, chip breaker and bars are adjustable to permit of a large projection of knife. The side spindle yokes are supported on flat cross bars with double gib to take up wear, and are so placed that they adjust across the full width of the machine and tilt in either direction for bevel work, the long guide being adjustable by ratchet and pawl.

The spring guide at the feeding-in end of the machine adjusts by screw and hand wheel. The feed rolls are 7" in diameter, all driven; top ones by expansion device which does away with all short studs and connecting links, all gears being fast on shafts running in self-oiling boxes.

THE FEED is very strong, driven from main counter. Cone feed pulley with friction clutch now supplied, with six changes of feed, 14', 20', 27', 37', 45' and 54' per minute. Feed started or stopped at both ends of machine. T. & L. pulleys for feed will be furnished if desired, in place of cone feed. Every part of machine numbered or lettered. Each machine supplied with straight knives for each head and one pair of matcher heads or regular square side heads and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 6¼"; speed, 675.

BELTS REQUIRED.

Two belts, each 17' 10" x 4", top head.
One belt, 23' 8" x 3½", bottom head.
One belt, 20' 4" x 3½", inside side head.
One belt, 19' x 3½", outside side head.
One belt, 14' 1" x 3", cone feed, or 15' x 3" for T. & L. feed.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
830	No. 1, 13" x 6"	12' 2" x 8' 7"	10 to 12	6,500	7,300	200	**Brimglee**
831	No. 1, 10" x 6"	12' 2" x 8' 4"	8 to 10	6,000	6,800	200	**Brinagus**

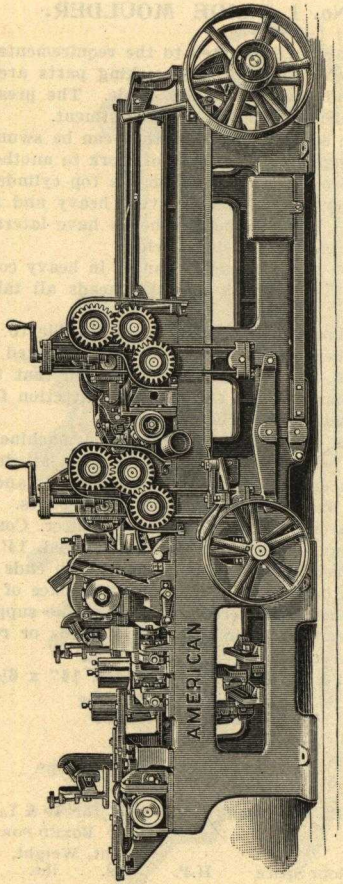


Fig. 832 Rogers No. 2 Inside Moulder.

C. B. ROGERS & CO.'S

No. 2 FIVE-HEAD INSIDE MOULDER.

Is very heavy and substantial, so designed that all of the working parts are above the top line of the frame, which has planed seats, to which the roll posts, cylinder beds and supports and other working parts are attached. This brings all the working parts of the machine within easy access of the operator; the adjustments are all very simple, quickly and easily made.

THE CYLINDERS are large and slotted on four sides, with heavy bearings running in connecting boxes to insure perfect alignment; top, bottom and side heads all take the same knife and bolt and all pressure bars and chip-breakers are adjusted for a large swing of knife. The regular top and bottom heads both adjust laterally.

SIDE SPINDLES adjust across the full width of the machine and tilt in either direction for bevel work.

The special lower head, for dressing the under side of the stock before it passes to the top cylinder bed plate, is placed between the feed rolls and so arranged that it can be drawn out to one side for easy access in setting up, and sharpening knives, and for any necessary adjustment. The addition of this head to a moulder is a very desirable feature in machines used principally for dressing hard wood.

THE FEED rolls are 7" in diameter, all driven, the top ones by a special expansion device which does away with all short studs and connecting links. All gears being fast on shafts running in self-oiling boxes. The feed is very strong, driven from main counter. Cone feed pulley with friction clutch now supplied, with six changes of feed, 14', 20', 27', 37', 45' and 54' per minute. Feed started or stopped at both ends of machine. T. & L. pulleys for feed will be furnished if desired, in place of cone feed. Every part of machine numbered or lettered. Each machine supplied with straight knives for each head and one pair matcher heads or regular square heads and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 6¼"; speed, 675.

BELTS REQUIRED.

Two belts, each 20' 8" x 4", top head.
One belt, 14' 10" x 3", first bottom head.
One belt, 26' 8" x 3½", second bottom head.
One belt, 23' 4" x 3½", inside side head.
One belt, 22' x 3½", outside side head.
One belt, 17' 1" x 3", cone feed, or 18' x 3", for T. & L. feed.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
832	13" x 6"	13' 8" x 8' 7"	10 to 12	8,000	9,000	210	**Brinto**
833	10" x 6"	13' 8" x 8' 4"	8 to 10	7,200	8,200	210	**Briolca**

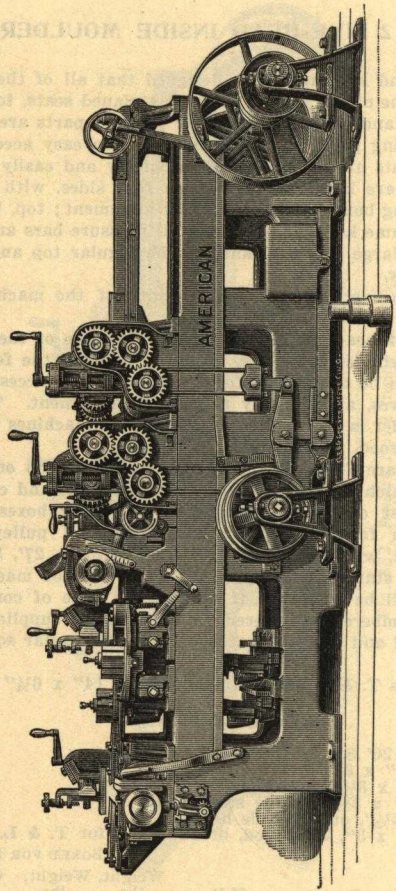


Fig. 834 Rogers No. 3 Inside Moulder.

C. B. ROGERS & CO.'S

No. 3 INSIDE MOULDER.

Designed to meet the demand for a lower priced moulder than the other heavier types of machines. The yokes for top and bottom heads and side spindles are practically the same as on the heavier machines. The working parts are easily accessible, the lower roll boxes being above the top of the frame. All adjustments are very quickly and easily made; pressure bars arranged to swing up clear of the bed; the guides are all adjustable in every necessary direction and the top and bottom heads both have lateral adjustment and parallel hoist; side spindles tilt in either direction and adjust across the full width of the machine; top, bottom and side heads are all the same size and take the same knife and bolt. The bonnet pressure and pressure bars are adjustable to large projection of knife. The feed on this machine is exceptionally strong, all rolls being driven, the top ones by expansion device which does away with all short studs and connecting links. All gears being fast to the shafts, which run in substantial boxes that can be oiled while the machine is in operation. The feed is driven from main counter. Cone feed pulley with friction clutch now supplied, with six changes of feed, 15', 21', 28', 39', 49' and 57' per minute. Feed started or stopped at both ends of machine. T. & L. pulleys for feed will be furnished if desired, in place of cone feed. Every part of machine numbered or lettered. Each machine supplied with straight knives for each head and one pair matcher heads or regular square side heads and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 6¼"; speed, 675.

BELTS REQUIRED.

Two belts, each 17' x 3½", top head.
One belt, 22' 8" x 3", bottom head.
One belt, 19' 4" x 3", inside side head.
One belt, 18' x 3", outside side head.
One belt, 13' 2" x 3", cone feed, or 14' 1" x 3" for T. & L. feed.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
834	No. 3, 15 x 4	11' 3" x 8' 5"	10 to 12	5,500	6,300	200	**Brioltum**
835	No. 3, 10 x 4	11' 3" x 8'	8 to 10	5,200	6,000	180	**Brisant**
836	No. 3, 8 x 4	11' 3" x 7' 10½"	8 to 10	5,000	5,800	175	**Brisure**

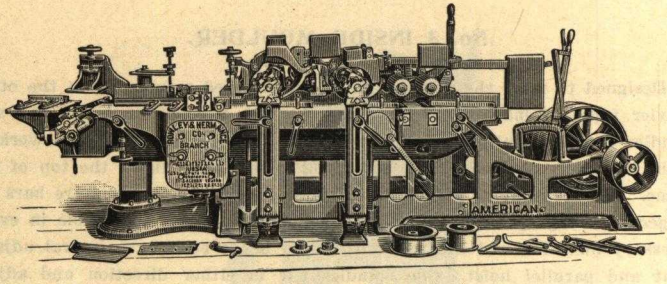


Fig. 837 Rowley & Hermance 5-Head Moulder.

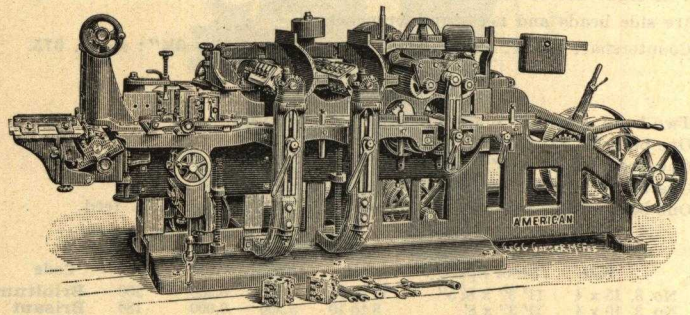


Fig. 840 Houston 5-Head Moulder.

ROWLEY & HERMANCE CO.'S

NEW COLUMN FIVE-HEAD MOULDER.

Contains all the improvements of our New Column moulders, with the addition of extra top head for making the roughing-out cut. For making mouldings of any description, hard wood flooring, etc.

The side heads are adjusted by our patent side setting device, by which they can be set either straight or at an angle from the front of the machine. They also have lateral and vertical adjustments. The first top head makes the roughing-out cut. The second top head makes the finishing cut. A sectional chip breaker and pressure shoes are provided for the top heads.

It is built in three sizes, to work 9", 10" and 12" wide by 4½" thick, and the table will lower 12". It has four rates of feed, 25', 30', 35' and 40', lineal, per minute. Each machine is furnished with five heads, slotted on four sides, two plain knives with each head, two extra double flange feed pulleys, two extra pressure shoes, and the necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 14" x 8"; speed, 850.

BELTS REQUIRED.

One belt, 16' 8" x 5½", top head.
One belt, 26' 6" x 3½", bottom head.
One belt, 20' 6" x 3½", outside head.
One belt, 9' 4" x 4", feed.
One belt, 20' x 5½", second top head.
One belt, 21' 6" x 3½", inside head.
One belt, 9' 1" x 3", feed.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
837	12"	14' 2" x 6' 11"	8 to 10	7,200	8,200	200	**Broadnax**
838	10"	14' 2" x 6' 11"	8 to 10	7,000	8,000	200	**Brocantag**
839	9"	14' 2" x 6' 11"	8 to 10	6,800	7,800	200	**Brocard**

LEVI HOUSTON CO.'S

FIVE-HEAD MOULDER.

Adapted for car shops and large moulding establishments. It is capable of working any moulding up to its capacity in width and 5" deep. The table is securely gibbed to frame; will lower 12". The under cutter has horizontal and vertical adjustments. Table raises and lowers on ball bearings.

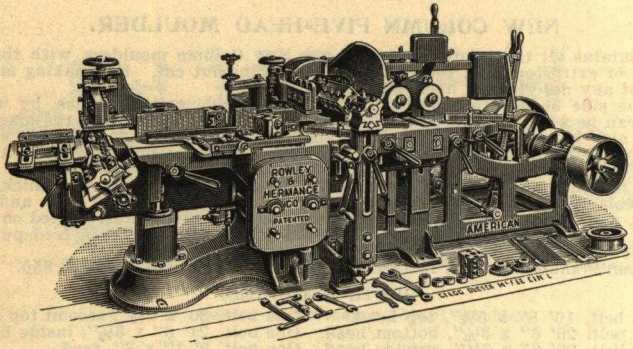
The inside and outside head stocks are also adjustable, and the belts pull against the bottom of the boxes. The outside head is provided with a special self-adjusting chip breaker. The top head stocks have a lateral adjustment. Feed consists of four 6" rolls, all driven, having a lever to raise the top rolls convenient to the operator. All heads are of forged steel, four-sided, four-slotted. One set of straight cutters furnished with each head; also two extra heads and a complete set of wrenches. Four rates of feed are provided for—22', 30', 36' and 52' per minute.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 8"; speed, 900.

BELTING REQUIRED.

One belt, 16' 2½" x 4½", top head.
One belt, 23' 1" x 3", under head.
One belt, 18' 7" x 3", outside head.
One belt, 12' 3" x 3", inside feed.
One belt, 18' 6" x 4½", second head.
One belt, 19' 4" x 3", inside head.
One belt, 10' 8" x 3", outside feed.
One belt, 11' 7" x 2½", inside feed.

Fig.	Size	Floor Space	H. P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
840	12"	12' 2" x 6' 1"	6 to 10	5,300	6,300	175	**Brocher**
841	10"	12' 2" x 5' 7"	6 to 10	4,900	5,900	170	**Brochetus**



Figs. 8411-842 Rowley & Hermance 1[illegible]" and 12" Moulders.

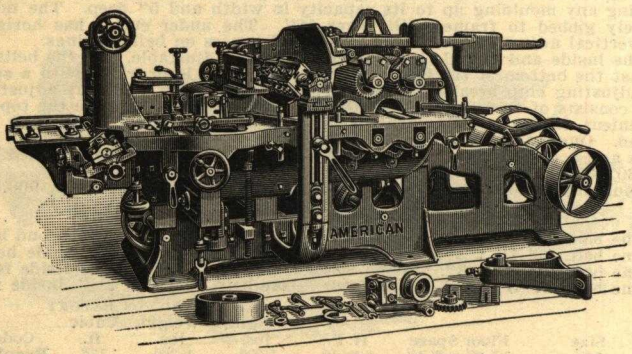


Fig. 843 Houston 12" Moulder.

ROWLEY & HERMANCE CO.'S

NEW COLUMN 14″ AND 12″ FOUR-SIDED MOULDERS.

Adapted to the heaviest as well as the finest grades of work.

THE FRAME is heavy and cast in one piece.

THE FEED works consist of four feed rolls 6″ in diameter, all driven.

The top feed rolls raise parallel with the bed. They are weighted and can be instantly raised by a lever to admit the use of a form for setting up the machine. Four rates of feed—viz., 20, 31, 38 and 55 lineal feet per minute.

THE SIDE HEADS raise and lower with the table. Both the inside and outside spindles are adjustable while in operation and can be set at an angle.

THE TOP HEAD has a lateral adjustment and the bottom head a lateral and vertical adjustment. It will dress 12″ or 14″ wide by 4¼″ thick on four sides, and the table will lower 12″ on ball bearings.

Each machine is furnished with four heads, slotted on four sides, two plain knives for each head, one extra four-slotted head with two plain knives, one double spring rest, one extra double flange feed pulley, four collars, two extra pressure shoes, two extra feed spurs and the necessary wrenches and springs as shown in cut. Countershaft has T. & L. (self-oiling) pulleys, 12″ x 8″; speed, 850.

BELTS REQUIRED.

One belt, 15′ 11″ x 7″, top head.
One belt, 17′ 3″ x 3″ inside head.
One belt, 16′ 6″ x 3″, outside head.
One belt, 22′ 4″ x 3½″, bottom head.
One belt, 8′ 7″ x 3½″, feed.
One belt, 8′ 2″ x 2½″, feed.

Fig.	Size	Floor Space	H.P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
8411	14″	12′ x 5′ 9″	10 to 12	5,600	6,700	265	**Brocheva**
842	12″	12′ x 5′ 7″	6 to 10	5,200	6,300	245	**Brocundis**

LEVI HOUSTON CO.'S

NEW 12″ FOUR-SIDED MOULDER.

Improved four-sided moulder. It is capable of working any moulding up to its capacity in width and 5″ deep. The under cutter has horizontal and vertical adjustments. The inside and outside head stocks are also adjustable, and belts pull against the bottom of the boxes. The outside head stock is provided with self-adjusting chip breaker. The top head stock has lateral adjustment. The feed consists of four 6″ rolls. The upper rolls are fluted and heavily weighted. A lever for raising them convenient to operator. All are driven. Sectional pressure shoes in rear of top head and over bottom head. All heads are made of forged steel, four-sided, four-slotted. One set of straight cutters is furnished with each head; also one extra head and one complete set of wrenches, etc. Table will lower 9″ on ball bearings.

Four rates of feed are provided for—22′, 30′, 36′ and 52′ per minute.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 8″; speed, 900.

BELTING REQUIRED.

One belt, 15′ 5″ x 5″, top head.
One belt, 20′ x 3½″, under head.
One belt, 15′ 9″ x 3″, outside head.
One belt, 16′ 7″ x 3″, inside head.
One belt, 11′ 7″ x 3″, outside feed.
One belt, 10′ 3″ x 3″, inside feed.
One belt, double, 10′ x 2½″, binder.

Fig.	Floor Space	H. P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
843	11′ 2″ x 6′	6 to 10	4,600	5,200	190	**Brocutiga**

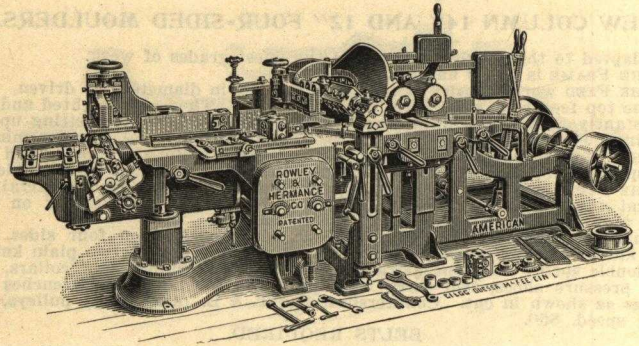
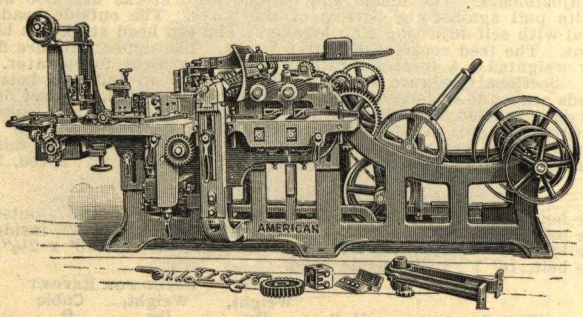


Fig. 844 Rowley & Hermance 10″ Moulder.



Figs. 845, 846 Houston 10″ and 9″ Moulders.

ROWLEY & HERMANCE CO.'S

NEW COLUMN 10″ FOUR-SIDED MOULDER.

Same design as our New Column 12″ moulder, described on page 171. There are four rates of feed—viz., 20, 31, 38 and 55 lineal feet per minute. The side heads raise and lower with the table. Both the inside and outside spindles are adjustable from the front of the machine while in operation. Either spindle can be set at an angle. Both of these heads have adjustable chip breakers.

It will dress 10″ wide by 4¼″ thick on four sides, and the table will lower 12″ on ball bearings.

Each machine is furnished with four heads, slotted on four sides, two plain knives for each head, one extra four-slotted head with two plain knives, one double spring rest, one extra double flange feed pulley, four collars, two extra pressure shoes, two extra feed spurs, and the necessary wrenches and springs as shown in the cut. Countershaft has T. & L. (self-oiling) pulleys, 12″ x 7″; speed, 850.

BELTS REQUIRED.

One belt, 15′ 11″ x 6″, top head.
One belt, 17′ 3″ x 3″, inside head.
One belt, 16′ 6″ x 3″, outside head.
One belt, 22′ 4″ x 3½″, bottom head.
One belt, 8′ 7″ x 3½″, feed.
One belt, 8′ 2″ x 2½″, feed.

Fig.	Floor Space	H.P.	Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
844	12′ x 5′ 5″	6 to 8	4,800	5,560	220	**Brodab**

LEVI HOUSTON CO.'S

NEW 9″ AND 10″ FOUR-SIDED MOULDER.

Newly designed machine. The frame is cast solid in one piece. The feed works are powerfully geared, run with a chain. The two top feed rolls are 5½″ in diameter and the two rolls in bed are 6″ in diameter, all driven. The feed works are raised by means of a lever in easy access to the operator. The under cutter is provided with lateral and vertical adjustments and a throat plate on each side. The front throat plate acts as a chip breaker. The outside head is provided with self-adjusting chip breaker. The inside and outside head stocks both have vertical and horizontal adjustments; both can be set to an angle and are attached to the table. Table in rear of under cutter head swings vertically to give access to the head. The belts for both side heads pull directly on the bottom of the boxes. There are four changes of feed—17′, 23′, 44′ and 59′ per minute. The table may be lowered 12″ on ball bearings without disturbing the relation of the gearing. Sectional pressure shoes in rear of top head and over under head. The one in rear of top head is hinged and swings up to give access to the knives. We furnish with each machine five four-slotted forged steel heads with a set of straight cutters for each, a full set of wrenches, a spur feed and an extra gear for change of feed.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 7″; speed, 900.

BELTS REQUIRED.

One belt, 16′ x 5½″, top head.
One belt, 21′ x 3″, under head.
One belt, 17′ 7″ x 3″, inside head.
One belt, 16′ 8″ x 3″, outside head.
One belt, 8′ 11″ x 2½″, feed.

Fig.	Size	Floor Space	H.P.	Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
845	10″	11′ 2″ x 5′ 10″	6 to 10	4,500	5,500	235	**Brodabend**
846	9″	11′ 2″ x 5′ 10″	6 to 8	4,200	5,200	230	**Brodeffo**

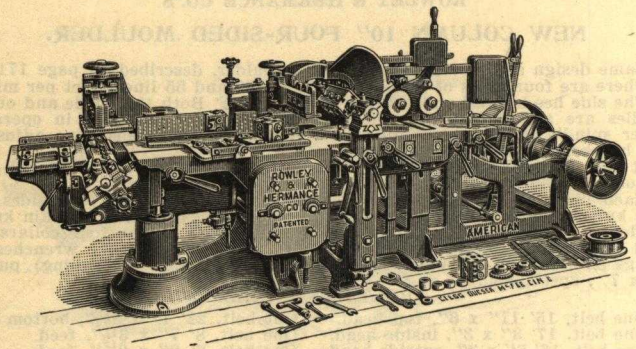


Fig. 847 Rowley & Hermance 9″ Moulder.

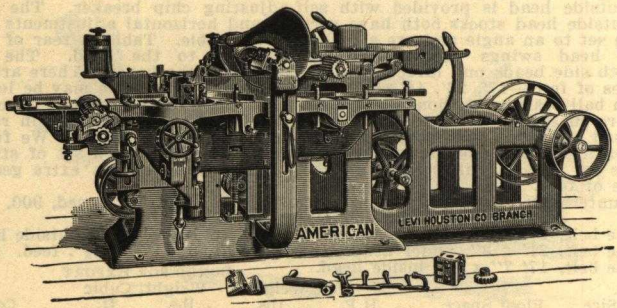


Fig. 848 Houston No. 2, 9″ Moulder.

ROWLEY & HERMANCE CO.'S

NEW COLUMN 9″ FOUR-SIDED MOULDER.

Adapted for the heaviest as well as the finest grades of work.

THE FRAME is cast in one piece.

THE FEED works are started and stopped with a binder. They consist of four feed rolls, each 6″ in diameter, all driven. The upper rolls are instantly raised by a lever. They also raise parallel with the bed.

It has four rates of feed—viz., 20, 31, 38 and 55 lineal feet per minute.

It will dress 9″ wide, 3½″ thick, on four sides, and table will lower 12″ on ball bearings.

Both of the side heads, the top and the under heads, are adjustable from the front or working side of the machine.

Each machine is furnished with five heads slotted on four sides, two plain knives for each head, one double spring rest, one extra double flange feed pulley, four collars, two extra pressure shoes, two extra feed spurs, and necessary wrenches and springs as shown in the cut.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 7″; speed, 850.

BELTS REQUIRED.

One belt, 15′ 11″ x 5″, top head.
One belt, 17′ 3″ x 3″, inside side head.
One belt, 16′ 6″ x 3″, outside side head.
One belt, 22′ 4″ x 3½″, bottom head.
One belt, 8′ 7″ x 3½″, feed.
One belt, 8′ 2″ x 2½″, feed.

				BOXED FOR EXPORT		
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
847	12′ x 5′ 4″	5 to 8	4,650	5,400	220	**Brodemitag**

LEVI HOUSTON CO.'S

No. 2, 9″ FOUR-SIDED MOULDER.

The inside and outside head stocks are both adjustable. Is provided with a lever to raise the feed rolls so the work may be pulled back out of the knives. Side head belts pull against bottom of boxes. The feed consists of two upper rolls, one 4″ and one 2″ in diameter, and one 6″ lower roll, all driven. The under head has lateral and vertical adjustments, and the machine is provided with adjustable throat plates on each side of under cutter. The machine will dress 4″ thick on four sides and the table will lower 9″ on ball bearings. Rates of feed—12′, 20′, 30′, 36′. It has a binder for feed works. The heads are all four-sided, forged steel, four-slotted. We furnish five heads and five sets of straight cutters and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 7″; speed, 850.

BELTS REQUIRED.

One belt. 15′ 9″ x 4½″, top head.
One belt, 20′ 6″ x 3″, under head.
One belt, 17′ 6″ x 3″, inside head.
One belt, 16′ 8″ x 3″, outside head.
One belt, 10′ x 2½″, inside feed.
One belt, 13′ x 2½″, inside feed (under roll).
One belt, 10′ 3″ x 3″, outside feed.
One belt, 12′ 8″ x 3″, inside feed.

				BOXED FOR EXPORT		
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
848	10′ 9″ x 4′ 8″	5 to 8	3,800	4,500	138	**Broderexa**

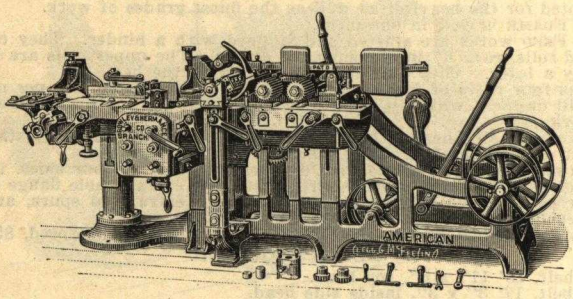
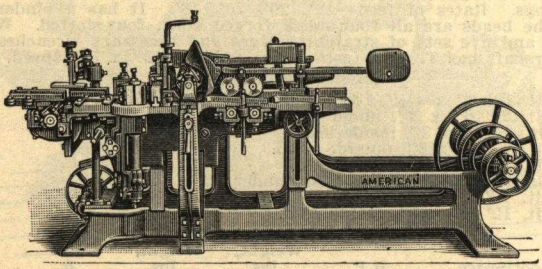


Fig. 849 Rowley & Hermance 8″ Moulder.



Figs. 850, 851 Rogers 8″ and 6″ B Moulder.

ROWLEY & HERMANCE CO.'S

NEW COLUMN 8" FOUR-SIDED MOULDER.

THE FRAME is cast in one piece.

It has four feed rolls, each 4" in diameter, all driven. The top rolls raise parallel. They are also raised and lowered by a lever for placing a form to set the knives. The feed works are started and stopped with a binder. It has three rates of feed—viz., 32, 45 and 60 lineal feet per minute. All the working parts are adjusted from the front of the machine.

THE TOP HEAD has a lateral adjustment; the bottom head has a lateral and vertical adjustment. It has an adjustable tightener for the belt that drives the top head.

Both the inside and outside heads have vertical, angular and horizontal adjustments and raise and lower with the bed.

It will dress 8" wide by 3½" thick on four sides, and the table will lower 12".

We furnish with each machine one set (two) straight knives for each of the four heads, one extra cap head, one extra feed pulley, two extra feed spurs, two extra pressure shoes, two collars, and all the necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 5"; speed, 900.

BELTS REQUIRED.

One belt, 13' 7" x 5", top head.
One belt, 15' 3" x 3", inside side head.
One belt, 14' x 3", outside side head.
One belt, 19' x 3", bottom head.
One belt, 7' 3" x 2¼", feed.
One belt, 7' 5" x 3", feed.

Fig.	Floor Space	H.P.	BOXED FOR EXPORT Weight, lbs.	Weight, lbs.	Cubic ft.	Code
849	10' x 4' 8"	5 to 6	3,000	3,800	165	**Brodery**

C. B. ROGERS & CO.'S

8" AND 6" FOUR-SIDED B MOULDERS.

Has every necessary and convenient adjustment. The heads are all of same diameter of swing, take the same knife and belt; top and bottom head have lateral adjustment, and side spindles may be tilted in either direction. The feed is exceptionally strong, there being four large rolls, all geared: feed is stopped and started by shifting on tight and loose pulleys. Three rates of feed, 13', 18 and 26' per minute. The bed drops to 14" without disconnecting lower rolls.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 5"; speed, 900.

BELTS REQUIRED.

One belt, 14' 7" x 4", top head.
One belt, 17' 4½" x 2½", bottom head on 6" machine.
One belt, 17' 5½" x 3", bottom head on 8" machine.
One belt, 14' 6" x 2½", inside side head.
One belt, 14' 1" x 2½", outside side head.
One belt, 8' 3" x 2¼", feed.
One belt, 8' x 1½", driving feed shaft.

Fig.	Size	Floor Space	H.P.	BOXED FOR EXPORT Weight, lbs.	Weight, lbs.	Cubic ft.	Code
850	8"	9' 7" x 4' 10"	5 to 6	2,450	3,400	190	**Brofyte**
851	6"	9' 7" x 4' 1"	5 to 6	2,300	3.300	165	**Brogavis**

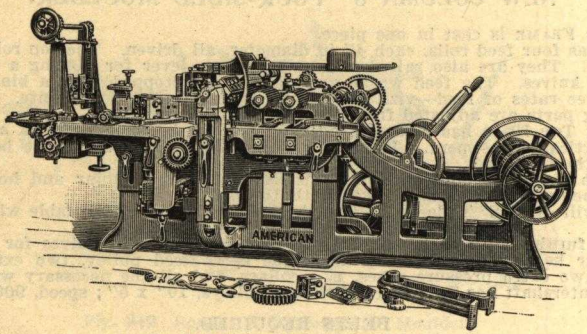


Fig. 8521 Houston 8″ Moulder.

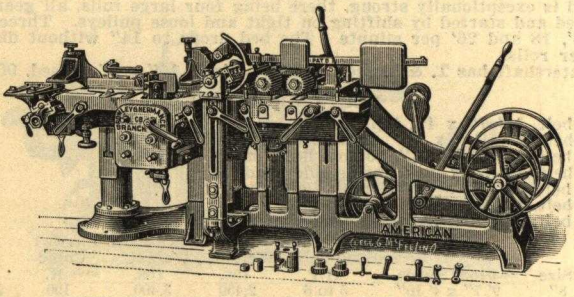


Fig. 853 Rowley & Hermance 7″ Moulder.

LEVI HOUSTON CO.'S

NEW PATTERN 8″ FOUR-SIDED MOULDER.

THE FRAME is cast in one piece. The heavy outside bearing is adjustable.

THE FEED is very strong and powerful, consisting of two upper corrugated rolls 4″ in diameter, and two lower smooth rolls. By movement of a lever the two upper feed rolls may be raised from the material.

THE INSIDE AND OUTSIDE head stocks are both adjustable and can be moved to any angle or position desired and are hung to table.

The under cutter head is provided with lateral and vertical adjustments, with a throat plate on each side. Inside head has adjustable chip breaker and take-up, and the outside head has an adjustable spring chip breaker.

THE HOOD over the top is adjustable, and the pressure foot is hinged on the hood with springs in the hinges to avoid vibration.

THE PRESSURE FOOT directly in rear of the top head is adjustable horizontally and vertically; is hinged and can be swung over top of the frame to allow of easy access to the top head. The pressure foot over the under cutter is fastened to the table, independent of the frame, thus avoiding vibration.

THE TABLE may be lowered 12″. The rear table drops vertically.

THE SIDE SPINDLES run on self-oiling steps. ALL BOXES on an incline.

There are four changes of feed—20′, 27′, 41′ and 55′ per minute.

We furnish with each machine five four-slotted forged steel heads, with a set of straight cutters with bolts for each head, and full set of wrenches. also a spur feed and an extra sprocket for change of feed.

Countershaft has T. & L. (self-oiling loose) pulleys, 12″ x 7″; speed, 900.

BELTS REQUIRED.

One belt, top head, 16′ x 5½″. One belt, under head, 21′ x 3″.
One belt, inside head, 17′ 7″ x 3″. One belt, outside head, 16′ 8″ x 3″.
One belt, feed, 8′ 11″ x 2½″.

Fig.	Floor Space	H.P.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
8521	11′ 2″ x 5′ 8″	5 to 7	3,900	4,400	220	**Bromella**

ROWLEY & HERMANCE CO.'S

NEW COLUMN 7″ FOUR-SIDED MOULDER.

THE FRAME is cast in one piece.

The machine has four feed rolls, each 4″ in diameter, all driven.

The top rolls raise parallel. The feed works are raised and lowered by a lever for placing a form to set the knives. Provided with three rates of feed. 32, 45 and 60 lineal feet per minute.

The feed works are started and stopped with a binder.

THE TOP HEAD has a lateral adjustment, while the bottom head has a lateral and vertical adjustment.

THE INSIDE AND OUTSIDE heads are attached to the bed and raise and lower with it; they have a vertical, angular and horizontal adjustment.

It will plane 7″ wide by 3½″ thick on all four sides, and the table will lower 12″. We furnish with each machine two sets (two) straight knives for each of the four heads, one extra cap head and one extra feed pulley, two extra feed spurs, two extra pressure shoes, two collars, and all the wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 10″ x 4½″; speed, 900.

BELTS REQUIRED.

One belt of each size, 13′ 7″ x 4″, top head; 15′ 3″ x 3″, inside head; 14′ x 3″, outside head; 19′ x 3″, bottom head; 7′ 3″ x 2½″, feed; 7′ 5″ x 3″, feed.

Fig.	Floor Space	H. P.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
853	10′ x 4′ 7″	4 to 6	2,800	3,760	152	**Broncoga**

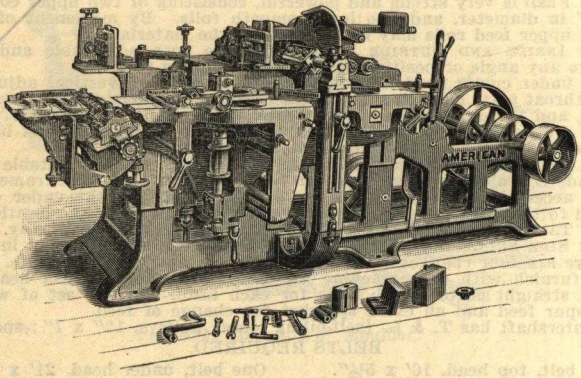


Fig. 854 Houston 7″ Moulder.

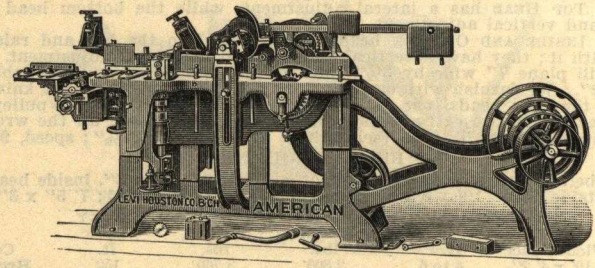


Fig. 855 Houston No. 2, 7″ Moulder.

LEVI HOUSTON CO.'S

NEW HEAVY 7" FOUR-SIDED MOULDER.

The frame is cast in one piece. The feed works consist of two top rolls 3" in diameter and one 6" roll in bed, all driven. The pressure foot directly in the rear of top head is hinged and may be thrown out of way to give access to cutter head. The inside and outside head stocks have horizontal and vertical adjustments and may be set at an angle. They are both attached to table, and the outside head is provided with adjustable spring chip breaker. The top head stock has lateral adjustment. The under cutter has both horizontal and vertical adjustments and the tail piece in rear of under cutter swings vertically out of the way. Adjustable throat plates on both sides of under cutter. The inside head has adjustable chip breaker and take-up. A lever is provided for raising the feed works, when desired, and for stopping and starting the feed. The table is clamped to frame at three points and will lower 9".

Four steel forged four-slotted heads and one steel cap head are furnished. together with all necessary springs and wrenches and one pair straight cutters with each four-slotted head.

Four rates of feed are provided—viz., 18', 28', 36' and 54' per minute.

Countershaft has T. & L. (self-oiling) pulleys, 10½" x 6"; speed, 1,000.

BELTS REQUIRED.

For top head, one belt 13' 9" long, 4" wide. For under head, one belt 18' 1" long, 3" wide. For inside head, one belt 15' 1" long, 3" wide. For outside head, one belt 14' 4" long, 3" wide. Inside feed belt, 8' 3" long, 2" wide. Outside feed belt, 7' 6" long, 2½" wide.

			BOXED FOR EXPORT			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
854	10' 4" x 5' 8"	4 to 6	3,000	3,800	196	**Bronogato**

LEVI HOUSTON CO.'S

No. 2, 7" FOUR-SIDED MOULDER.

It has adjustable outside bearings. The inside and outside head stocks have vertical and horizontal adjustments and can be set to an angle. The top head has lateral adjustment. The under cutter is adjustable vertically and horizontally. There are throat plates provided on each side of the under cutter head.

The feed consists of one 6" lower and two upper rolls, one 3" and one 1½", all driven.

This machine has a binder for feed. Table will lower 9". We furnish five steel heads and four sets of cutters. Four heads are four-sided, four-slotted. and the extra head is a solid cap head. Four rates of feed—24', 32', 38' and 46'.

Countershaft has T. & L. (self-oiling) pulleys, 10½" x 5"; speed, 900.

BELTS REQUIRED.

One belt, 12' 10" x 3½", top head. One belt, 16' 4" x 2½", under head. One belt, 14' 1" x 2½", inside head. One belt, 13' 4" x 2½", outside head. One belt, 7' 1" x 2½", outside feed. One belt, 7' 10" x 1½", inside feed.

			BOXED FOR EXPORT			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
855	9' x 4' 4"	3 to 5	1,850	2,500	100	**Bronolty**

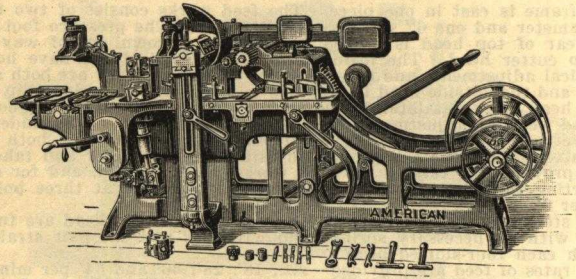


Fig. 856 Rowley & Hermance 6″ Moulder.

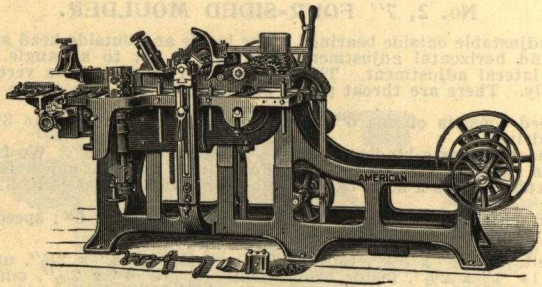


Fig. 860 Houston 6″ Moulder.

ROWLEY & HERMANCE CO.'S

NEW PATTERN 6" FOUR-SIDED MOULDER.

Adapted for the lighter class of mouldings, etc. The frame is one solid casting. Machine is provided with two upper rolls, one 3" and one 2" diameter, and one lower 3¾" feed roll, all driven. Feed is controlled by a tightener. Feed, 32', 45' and 60' per minute. The top and bottom heads may be adjusted laterally, and the side heads have a vertical and angular adjustment. The top rolls and hood over the top head are weighted, and heads are provided with chip breakers and pressure shoes.

The table may be lowered to a depth of 12". We furnish one top head, four-slotted, one bottom and two side heads, two-slotted, all of steel, and one extra loose cap head, one extra spur feed roll, and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4½"; speed, 900.

BELTS REQUIRED.

One belt, 12' 9" x 4", top head. One belt, 13' 8" x 2½", inside side head. One belt, 13' 3" x 2½", outside side head. One belt, 16' 4" x 3", bottom head. One belt, 6' 6" x 2½", feed. One belt, 8' 6" x 2", feed.

Fig.	Style	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
856	Four sides...	8' x 5' 4"	3 to 5	1,700	2,290	128	**Brosser**
857	Three " ...	8' x 5' 4"	3 to 4	1,625	2,125	112	**Broutepa**
858	Two " ...	8' x 5' 4"	2 to 3	1,475	1,975	96	**Broutycum**
859	One side....	8' x 5' 4"	2	1,425	1,925	96	**Bruanto**

LEVI HOUSTON CO.'S

6" FOUR-SIDED MOULDER.

Adapted for the lighter class of mouldings. Frame cast in one piece. Adjustable outside bearing for top head shaft. The feed works consist of two top rolls, one 3" and one 1½", and one 6" roll in bed, all driven. The machine is provided with a lever to raise the feed rolls to release the material being worked. The inside and outside head stocks both have horizontal and vertical adjustments and may be set to an angle. The top head stock has lateral adjustment and the under cutter has both lateral and vertical adjustments. This machine is provided with sectional pressure shoe in rear of top head and substantial pressure shoe over under cutter. The tail piece in rear of under cutter is hinged and swings out to give free access to head. The table is fitted with adjustable throat plates in front and rear of under head, and the inside head is provided with adjustable chip breaker and take-up. The table will lower 15". Four steel forged four-slotted heads, one steel cap head and four pairs of straight knives are furnished, together with one spur feed and one extra shoe for bonnet, and necessary wrenches, spring posts and springs. Four rates of feed—22', 30', 39' and 48'.

Countershaft has T. & L. (self-oiling) pulleys, 10½" x 5"; speed, 900.

BELTS REQUIRED.

One belt, 12' 11" x 3½", top head. One belt, 16' x 2½", under head. One belt, 14' 1½" x 2½", inside head. One belt, 13' 3" x 2½", outside head. One belt, 7' x 2½", outside feed. One belt, 8' 4" x 1½", inside feed.

Fig.	Style	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
860	Four sides...	9' x 3' 8"	3 to 5	1,800	2,500	117	**Bruet**
861	Three " ...	9' x 3' 8"	3 to 5	1,700	2,400	117	**Brufacco**
862	Two " ...	9' x 3' 8"	2 to 3	1,600	2,300	117	**Brulerigo**

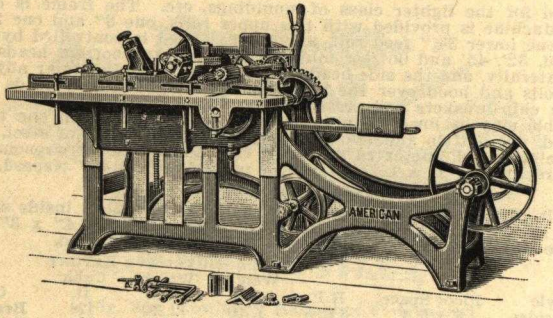


Fig. 863 Houston No. 2, 6″ One-Sided Moulder.

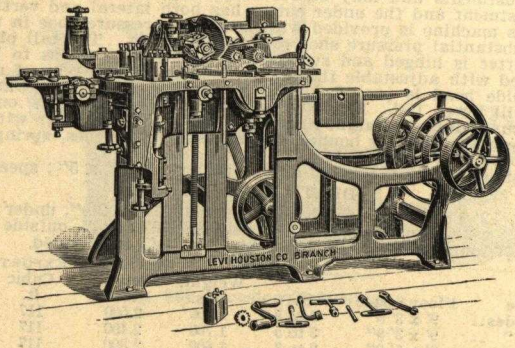


Fig. 864 Houston 4″ Moulder.

LEVI HOUSTON CO.'S

No. 2, 6″ ONE-SIDED MOULDER.

Designed for working mouldings on one side up to 6″ wide. Frame is cast in one piece, is strong, rigid and well braced. The feed works consist of two upper driven rolls, one 3″ and one 1½″, and one 6″ idle roll in the bed. There are four rates of feed—22′, 30′, 39′ and 48′ per minute. The bed will lower 15″. The feed belt binder is in convenient position for the operator. With each machine we furnish one four-slotted head, one pair of straight knives and one extra sash head, all necessary springs, wrenches, spur feed and filling up collars.

Countershaft has T. & L. (self-oiling) pulleys, 10½″ x 5″; speed, 900.

BELTING REQUIRED.

One belt, 12′ 9″ x 3½″, top head.
One belt, 7′ x 2½″, outside feed.
One belt, 8′ 1″ x 1½″, inside feed.

Fig.	Floor Space	H.P.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
863	8′ 9″ x 3′ 4″	2	1,200	1,600	118	**Brumetank**

LEVI HOUSTON CO.'S

4″ FOUR-SIDED MOULDER.

Newly designed, especially adapted to work small mouldings, beads, trunk slats and sash, and is well adapted for running blind slats. The frame is cast in one piece. The feed consists of two upper 2″ steel fluted rolls and one 4″ idle roll in the bed; the feed works are controlled by a binder. The table will lower 20″. The side spindles run on self-oiling steps. The under cutter has vertical adjustment and is provided with a substantial pressure foot. There is also a pressure foot directly in rear of top head. The outside head stock may be thrown to any angle, adjusted horizontally or vertically. The hood over top head is adjustable to and from the knives. We furnish a four-slotted steel forged head for top arbor; the under head and side heads are two-slotted, two knives with each head, a cast steel side head, also a full set of wrenches, springs, etc. Geared lower feed roll supplied as an extra.

Countershaft has T. & L. (self-oiling) pulleys, 10″ x 4″; speed, 900.

BELTING REQUIRED.

One belt, 11′ 8″ x 3″, top head.
One belt, 13′ 7″ x 2″, under head.
One belt, 11′ 5″ x 2″, inside head.
One belt, 11′ 1″ x 2″, outside head.
One belt, 7′ 6″ x 2½″, outside feed.
One belt, 7′ 7″ x 1½″, inside feed.

Fig.	Style	Floor Space	H.P.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
864	Four sides	7′ 2″ x 3′ 3″	2 to 4	1,100	1,600	92	**Brummit**
865	Three "	7′ 2″ x 3′ 3″	2 to 4	1,050	1,500	92	**Bruscon**
866	Two "	7′ 2″ x 3′ 3″	2 to 4	950	1,400	92	**Brusteole**
867	One side	7′ 2″ x 3′ 3″	1 to 2	750	1,300	92	**Brutoe**
868	Geared Lower Feed Roll for above machine, extra						**Bubon**

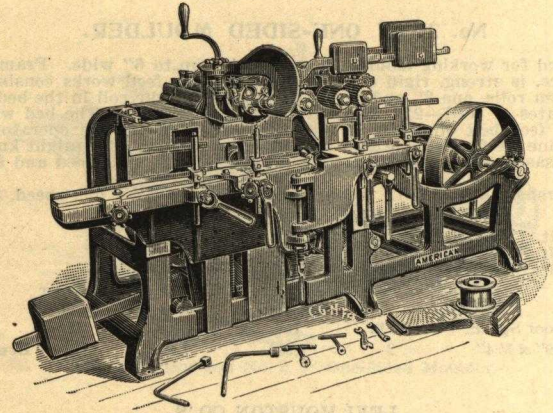


Fig. 869 Rowley & Hermance No. 5 Door Sticker

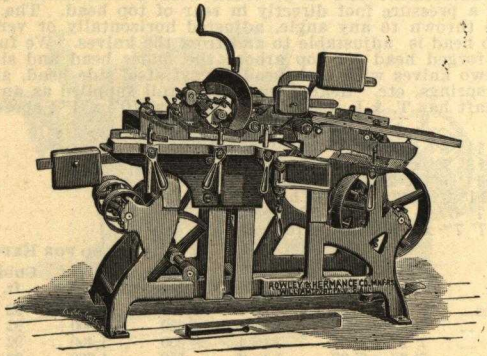


Fig. 874 Rowley & Hermance No. 3 Sash Sticker.

ROWLEY & HERMANCE CO.'S

No. 5 DOUBLE DOOR STICKER.

Adapted for sticking stiles and rails for doors and sash, working both edges of door rails and stiles and sash bars and muntins, or working one edge and joining the other at one operation. The frame is cast in one piece. The table is gibbed to the frame and will drop down to 14½". There are three 3" driven feed rolls, weighted. The lower head is placed in front, thus working the bottom part of the rail or stile first.

It has four rates of feed—viz., 20, 25, 30 and 35 lineal feet per minute.

Each machine is furnished with two (Shimer) O. G. door heads, with one set each of O. G. door cutters and the necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4½"; speed, 900.

BELTING REQUIRED.

One belt, 17' 2" x 4", top and bottom heads.
One belt, 7' 6" x 2½", feed. One belt, 6' 8" x 2½", feed.

Fig.	Floor Space	H.P.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
869	8' x 3' 7"	1 to 3	1,100	2,000	92	**Buca**

ROWLEY & HERMANCE CO.'S

No. 3 SASH STICKING MACHINE.

Special machine, with the bottom head placed in front, working both edges of stiles, bars and muntins of sash in one operation. The lower head is placed in front, working the bottom edge of the stiles, bars and muntins first. It joints the stock and works the moulding, giving a perfect bearing on the bed while being operated upon by the top cutter head. The bottom head has a lateral and vertical adjustment, and the table in front of it can be swung out of the way. The feed consists of three 2" top rolls, 4" long, all driven.

We furnish with each machine one cap head on top arbor, one set of sash cutters for same, one two-slotted head on bottom arbor, one set (two) jointing knives, and necessary wrenches. When the attachment is ordered for making the wide and narrow groove we furnish with it two Shimer grooving heads with grooving cutters, one ⅞" boring bit. For the single width of groove, one plain grooving head, one set (two) straight grooving cutters, and one ⅞" boring bit. Floor space, 8' x 3' 7". H. P., 2 to 4. Countershaft has T. & L. (self-oiling) pulleys, 10" x 4½"; speed, 900. Belting required—One belt, 18' x 3½", top and bottom heads. One belt, 10' 7" x 2½", outside side head. One belt, 8' 10" x 2", grooving head. One belt, 9' 1" x 2", boring bit. One belt, 10' x 1½", feed. One belt, 6' 5" x 2½", feed. One belt, 11' 7" x 3", sub-counter.

Fig.		Boxed for Export Weight, lbs.	Weight, Cubic ft.		Code
872	With Top and Bottom Heads, without Boring and Grooving Attachment	1,300	1,800	85	**Buchergo**
873	With Top, Bottom and Outside Heads, without Boring and Grooving Attachment	1,450	1,950	85	**Buchinate**
874	With Top and Bottom Heads, including Boring and Double Grooving Attachment for making the continuous wide and narrow groove	1,450	1,950	85	**Buddelor**
875	With Top, Bottom and Outside Heads, including Boring and Double Grooving Attachment for making the continuous wide and narrow groove	1,600	2,100	85	**Budosity**

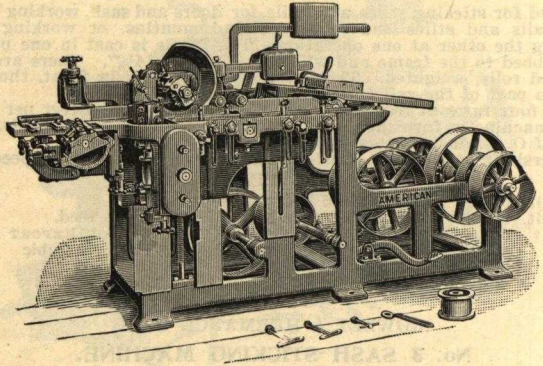


Fig. 877 Rowley & Hermance No. 2½ Sash Sticker.

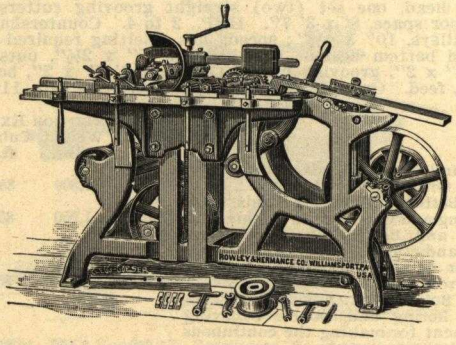


Fig. 879 Rowley & Hermance No. 1 Sash Sticker.

ROWLEY & HERMANCE CO.'S
No. 2½ SASH STICKING MACHINE.

A late machine made from new patterns, with improved attachment for boring and grooving sash stiles at one operation as they pass through the machine. The stile is placed on the grooving table and pushed forward against a counterbalanced stop, making the wide groove. This stop then drops below the table and the stile is pushed forward against the second stop, then by pressing the foot on the treadle the bit bores the stile at an angle, so that the knot in the cord will draw toward the bottom of the hole when the weight is attached. The stile is then placed against the second gauge and the narrow groove is completed to the hole. The stile is then placed under the feed rolls and run through the machine.

THE FEED consists of two 2" top driven and one 4" idle roll in the bed.

THE UNDER CUTTER HEAD STOCK is so constructed that heads are interchangeable without removing the arbor. The bed drops 16".

We furnish regularly with each machine one cap head with one set of sectional sash cutters for top arbor, one four-slotted head, one pair of (two) jointing knives for side arbor, one four-slotted head and one pair of (two) jointing knives for bottom arbor, two Shimer grooving heads to make the wide and narrow groove, one ⅞" boring bit, and all necessary wrenches.

Countershaft has T. & L. (self-oiling loose) pulleys, 10" x 5"; speed, 900.

BELTING REQUIRED.

One belt, top head, 13' 8" x 4".
One belt, bottom head, 12' 8" x 4".
One belt, outside head, 12' 10" x 2½".
One belt, grooving head, 5' 11" x 2".
One belt, boring bit, 6' 3" x 2".
One belt, first feed, 10' 2" x 1½".
One belt, second feed, 6' 3" x 2½".

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, Cubic ft.	Code
876	With Top Head	7'10" x 4'3"	2 to 3	1,500	2,200	96 **Buffo**
877	Top and Rear Bottom Head	7'10" x 4'3"	2 to 3	1,600	2,300	96 **Bugno**
878	Top, R. B. & Outside Hds.	7'10" x 4'3"	2 to 3	1,750	2,450	96 **Bulbe**

ROWLEY & HERMANCE CO.'S
No. 1 SASH STICKING MACHINE.

Machine used to plow and bore sash stiles at the same time that they are being run through the sticker. The stile is placed on the grooving table and pushed forward against a counterbalanced stop, making the wide groove. This stop then drops below the table and the stile is pushed forward against the second stop, then by pressing the foot on the treadle the bit bores the stile at an angle, so that the knot in the cord will draw toward the bottom of the hole when the weight is attached. The stile is then placed against the second gauge and the narrow groove is completed to the hole. Stile is then placed under the feed rolls and run through the machine. The bed drops 16". The two top feed rolls are 2" diameter, 4" long, both driven.

We furnish with each machine one cap head on arbor, one set of sash cutters for same, one bit ⅞" in diameter, one plain grooving head, one set plain grooving cutters, and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4½"; speed, 900.

Floor space, 6' x 3'; H. P., 1 to 3 Weight, 1,050 lbs. Boxed weight. 1,350 lbs. Cubic feet, 65. Belting.—One belt, 9' 11" x 3½", top head. One belt, 12' x 2½", bottom head. One belt, 10' 7" x 2½", outside side head. One belt, 8' 10" x 2", grooving head. One belt, 9' 1" x 2", boring bit. One belt, 9' x 1½", feed. One belt, 6' 5" x 2½", feed. One belt, 10' 7" x 3", sub-counter.

Fig.		Code
879	With Top Head and Plowing and Boring Attachment	**Bulino**
880	With Top and Rear Bottom Heads and P. and B. Attachment	**Bullamug**
881	With Top and Outside Heads and P. and B. Attachment	**Bullrush**
882	With Top and Rear and Outside Heads and P. and B. Attachment	**Bulltrout**

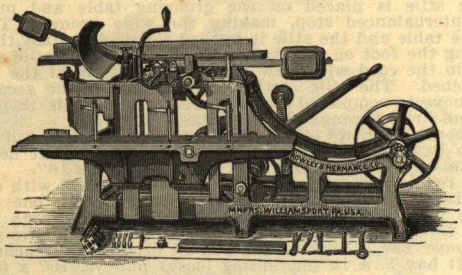


Fig. 883 Rowley & Hermance 6″ One-Sided Moulder, with Grooving Attachment.

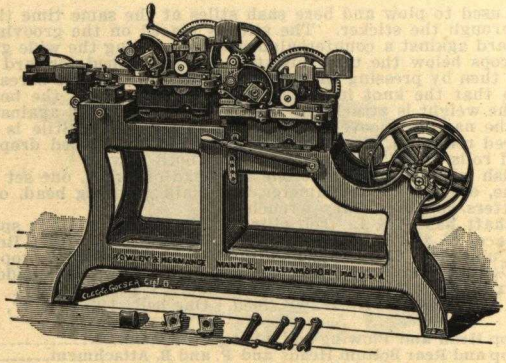


Fig. 885 Rowley & Hermance Double Blind Slat Planer.

ROWLEY & HERMANCE CO.'S

6" ONE-SIDED MOULDER.

WITH AND WITHOUT GROOVING ATTACHMENT.

Used principally for sticking door stiles, door rails, blinds and any work that is to be dressed on one side.

Has an attachment for grooving door stiles, which consists of a table placed over the top arbor, on which there is an adjustable guide, and a head on the arbor projecting through the table. This table is adjustable vertically by means of a screw for regulating the depth of groove.

The object of this attachment is to allow for the use of a thin door panel with grooves in the stiles narrower than the mortise. Also furnished without the grooving attachment.

Frame is heavy and strong, cast in one solid piece.

The table raises and lowers 14".

It has four rates of feed, 25', 32', 45' and 60', and is provided with a binder.

Each machine furnished with one four-slotted steel head with steel bolts, nuts and washers, and two plain straight knives, one loose cap head with one set of O. G. door cutters, one grooving head with two straight cutters, one extra spur feed roll and five wrenches. Grooving head omitted from plain machine.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4½"; speed, 900.

BELTS REQUIRED.

One belt, 12' 7" x 4", top head.
One belt, 8' x 2", feed.
One belt, 6' 6" x 2½", feed.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
883	With Grooving Att.	8' x 3' 10"	1 to 3	1,250	1,500	75	**Bundling**
884	Without " "	8' x 3' 10"	1 to 3	1,250	1,500	75	**Bunghole**

ROWLEY & HERMANCE CO.'S

NEW PATTERN DOUBLE BLIND SLAT PLANER.

Heavy and durable, the frame is cast in one piece. It is strongly geared and has powerful feed. It will plane slats with the grain in once passing through the machine without splitting or tearing out.

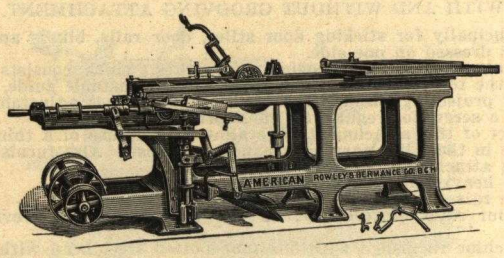
It is two machines in one, having upper and lower independent tables and two sets of double geared 2½" feed rolls. The slat is run under the lower cutter or single head first, then turned over and placed on the upper bed beneath the feed rolls, which carry it under the top head and through the side heads, finishing the slat with the grain.

It may be run at a high rate of speed, and, if kept in proper order, will plane from 8,000 to 12,000 12" slats per day.

Will plane slats up to ¾" in thickness, and as wide as 2½". Both beds will drop 2".

Countershaft has T. & L. (self-oiling) pulleys, 8" x 3"; speed, 750.

Fig.	Floor Space	H.P.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
885	6' x 2' 3"	2	950	1,300	60	**Bungle**



Figs. 889, 890 Rowley & Hermance Sash Jointing and Sand-Papering Machine, complete.

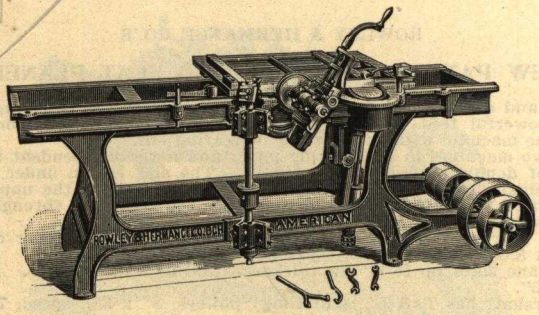


Fig. 891 Rowley & Hermance No. 5 Combination Sash Jointing and Sand-Papering Machine.

ROWLEY & HERMANCE CO.'S

SASH AND BLIND JOINTING, RABBETING, BEADING AND SAND-PAPERING MACHINES.

WITH PLOWING AND BORING ATTACHMENT, ALSO WITH END BORING ATTACHMENT FOR BORING THE CONNECTING HOLE.

These machines are built to perform the various kinds of work as described in the schedule. The illustration on opposite page represents the No. 4 sash jointing and sandpapering machine with plowing and boring attachment and blind jointing, rabbeting and beading and horizontal end boring attachments. Every operation of the machine is perfectly accurate and the adjustments are quickly made. Illustrated circulars describing in detail the various operations will be mailed upon application.

Floor space, 8′ 5″ x 4′. H. P., 1 to 3.

Countershaft has T. & L. (self-oiling) pulleys, 8″ x 4″; speed, 800.

Fig.		Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
886	No. 1 Blind Jointing, Rabbeting and Beading Machine only	1,000	1,300	70	**Buonog**
887	No. 2 as a Sash Jointing and Sand-Papering Machine only	1,000	1,300	70	**Burbero**
888	No. 3 as a Sash Jointing and Sander, with Plow and Boring Attachment	1,100	1,400	70	**Burbolt**
889	No. 4 as Sash Jointing and Sand-Papering Machine with Plowing and Boring Attachment, including Blind Jointing, Rabbeting and Beading Attachments	1,100	1,400	70	**Burdener**
890	Horizontal End Boring Attach., extra	150			**Burean**

ROWLEY & HERMANCE CO.'S

COMBINATION SASH JOINTING AND SAND-PAPERING MACHINE.

Designed for jointing and sandpapering the meeting rail and sandpapering the bevel check rail of sash at one operation. It is simple, quick and efficient. The head on the upright arbor joints the meeting rail. The sandpapering disk next to the jointing head has vertical and horizontal adjustments. The bevel check rail sandpapering disk has vertical, horizontal and angular adjustments.

Floor space, 8′ 5″ x 4′. H. P., 1 to 2. Weight, 950 lbs. Boxed weight, 1,200 lbs. Cubic feet, 70. Countershaft has T. & L. (self-oiling) pulleys, 8″ x 4″; speed, 800.

Fig.		Code
891	No. 5 Combined Sash Jointing and Sand-Papering Machine with Bevel Check Rail Sand-Papering Attachment	**Burenod**
892	No. 6, same Machine, with Plowing and Boring Attachments	**Burgrave**

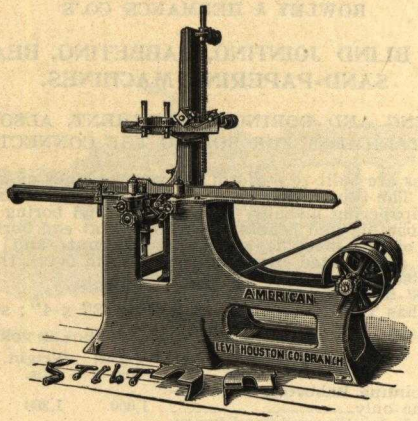


Fig. 893 Houston Blind Rabbeting and Jointing Machine.

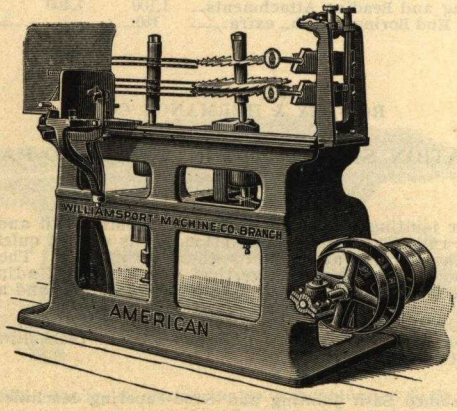


Fig. 895 Williamsport Relisher and Wedge Cutter.

LEVI HOUSTON CO.'S

BLIND RABBETING AND JOINTING MACHINE.

Intended for rabbeting and jointing blinds. The blind is fed on its edge to admit of a wide blind being rabbeted; the bead is stuck on the same side with the guide; the head stock carrying the rabbeter head is set on a miter with the face of the blind, which makes a free cut on both sides of the rabbet; the head stock is adjustable vertically and horizontally while in motion by means of screws; both feed shafts are hung in pivoted boxes and the idler on opposite side of machine is adjustable to take up slack on jointer belt. The table on this machine is long and the after part is adjustable. The blind is held firmly by means of springs, and is fed through by two rubber rolls, one before and the other after the cutters. The blind is jointed on both edges at the same time it is rabbeted and beaded. This machine will take in a blind up to 26" wide.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4"; speed, 550.

BELTS REQUIRED.

One belt, 8' 5" x 2½".
One belt, 8' 6" x 1½".
One belt, 9' 2" x 1½".
One belt, 12' 9" x 2".

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
893	Rabbeting, Jointing and Beading Machine	7'1" x 3'2"	1 to 2	700	1,000	60	**Burial**
894	Rabbeter without Jointing Attachment	7'1" x 3'2"	1 to 2	700	1,000	60	**Burletta**

WILLIAMSPORT MACHINE CO.'S

NEW SINGLE MOTION RELISHER AND WEDGE CUTTER.

FRAME is cast in one piece, and by the arrangement of the carriage and rail on which it slides the operator is permitted to get close to the saws, thus facilitating the handling of work considerably.

THE FIRST ARBOR is perpendicular, the second upright arbor is thrown forward on the right angle to give the bevel to the wedge, and can be adjusted to give different bevels to accommodate different widths of tenons, or can be moved to a perpendicular. The two horizontal arbors are adjusted by screws, and can be moved up and down to cut any width of relish.

THE SLIDING BED moves the length of machine on tracks. The rail to be relished is placed on its worked edge, on the bed, with shoulder against the stop (which can be adjusted to any depth of cut), and run through machine, thus cutting the relish and wedge in one movement. One man can relish the rails and make the wedges for 1,000 to 1,200 doors in ten hours.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4"; speed, 700.

Fig.	Floor Space	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
895	4' 4" x 4' 8"	3	1,000	1,200	45	**Burliness**

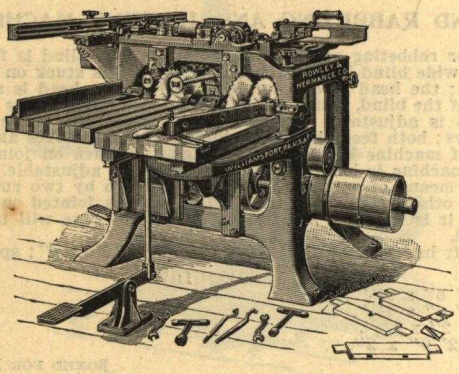


Fig. 896 Rowley & Hermance Door S. & B. Relisher and Mortiser.

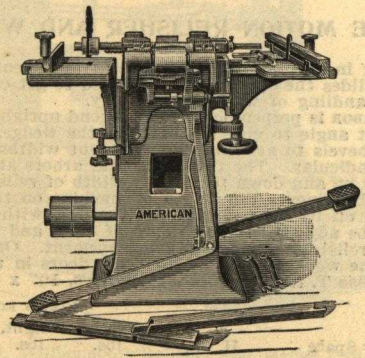


Fig. 898 Williamsport Sash Mortiser and Relisher, Complete.

ROWLEY & HERMANCE CO.'S

No. 2 DOOR, SASH AND BLIND RELISHING AND MORTISING MACHINE.

WITH WEDGE-CUTTING AND BLIND RAIL ROUTING ATTACHMENT.

A valuable labor-saving machine for relishing doors, sash and blind rails, mortising sash rails, stiles and bars, and recessing the blind rail for the end of the blind rods.

The frame is very heavy and cast in one piece, with the attachment substantially fitted to it, and so designed that the various kinds of work performed on this machine can be done without interference with each other.

Is furnished with or without power feed for mortiser, as ordered.

Floor space, 6′ x 5′. H. P., 2 to 3. Weight, 1,500 lbs. Boxed weight, 1,800 lbs. Cubic feet, 70.

Countershaft has T. & L. (self-oiling) pulleys, 8″ x 4½″; speed, 1,000.

Fig.		Code
896	No. 2 Door, Sash and Blind Relishing and Mortising Machine, complete with all Attachments and Foot Power Feed on Mortiser	**Burlone**
897	Extra for Power Feed on Mortiser	**Burly**

WILLIAMSPORT MACHINE CO.'S

SASH MORTISER AND RELISHER.

The mortising is performed by the use of a square, hollow chisel, inside of which an auger bit revolves. This makes a clean mortise without clipping the edges of stock. The gauge is provided with all necessary stops to regulate the work properly. The relishing attachment is on the other side of the machine. so that the two operators can work at the same time without inconveniencing each other. We furnish with this machine when sold complete one ½″ x 7-16″ hollow chisel and bit, one 7-16″ auger bit, one 10″ rip saw and all necessary wrenches.

If desired we can attach a blind rail router to this machine for cutting the recess in rails of blinds for receiving the rods. It is efficient and complete and does not interfere in any way with the other working parts of the machine.

Floor space, 3′ x 3′. H. P., 2 to 3.

Countershaft has T. & L. (self-oiling) pulleys, 6″ x 3″; speed, 850.

Fig.		Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
898	Sash Mortiser and Relisher, complete.	600	800	36	**Burnisher**
899	Sash Mortiser and Relisher only				**Burnoose**
900	Sash Mortiser only				**Burrow**

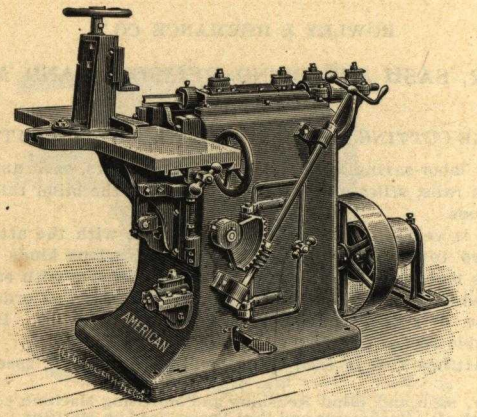


Fig. 901 Rowley & Hermance Hollow Chisel Mortiser.

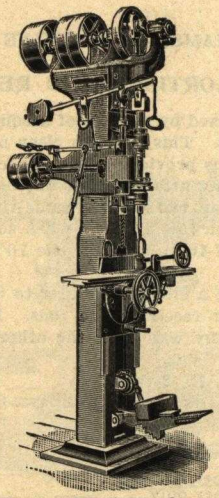


Fig. 906 Houston No. 1 Mortiser and Borer.

ROWLEY & HERMANCE CO.'S

HOLLOW CHISEL MORTISING MACHINE.

Useful for mortising in hard woods, for car, carriage, wagon, furniture, blind, sash and door factories. Fitted with a hollow chisel, through which projects a boring bit, and when brought up to the timber it bores the hole, and the chisel following it simultaneously squares out the four corners and sides, with no jarring to the machine. A finished mortise of any length, and from ½" to 1" square, and free from chips, is thus made.

The stroke is variable from 1½" to 4½" in depth. This is controlled by screw in the revolving disk. The movement of the chisel is governed by a treadle placed at the side of the machine, which gives it a continuous and positive reciprocating motion.

The table is counterbalanced and is adjusted vertically by worm and worm wheel, provided with vertical and horizontal stops, by which one or more mortises can be made, as in double mortising. That is, a ¾" chisel will make a mortise from ¾" to 1½" by passing through twice. It has an adjustment end-wise to regulate the length of the mortise, by a hand wheel operating a rack and pinion. The table is 3' 6" long, 10" wide, and travels 6" each way from center of chisel, making a mortise 12" long with one clamping. The chisel bar is operated by steel worm and brass worm wheel. A ¾" chisel with bit and necessary wrenches are furnished with each machine. Other chisels are extra.

Countershaft has T. & L. (self-oiling loose) pulleys, 10" x 5"; speed, 600.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
901	5' 5" x 4'	2 to 3	1,700	2,100	72	**Bursal**

THE LEVI HOUSTON CO.'S

No. 1 POWER MORTISER.

Designed to do heavy hard wood mortising, such as hard wood doors, as well as lighter work. Has solid steel crankshaft and outside bearing. The conical split brass boxes, in which the quill and spindle run, and the method by which the speed of the reverse is reduced to prevent the battering and breaking of stops, are features perfected. These conical brass boxes are split and fitted into conical bearings. The larger or quill box is threaded on lower end with nut to take up wear, and the smaller or spindle box is provided with clamp or jamb nuts to take up wear. The reverse is also conical with nut on small end to take up wear. It will mortise to the center of material 5" wide with clamp table, and with plain table to the center of material 6" wide. The table tilts to an angle, is provided with clamping device, hold-downs and rack and pinion feed. The treadle device relieves the operator from the usual jar. Five chisels, ⅜", 7-16", ½", ⅝" and ¾", and five boring bits are furnished with each machine, together with a full set of wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 3"; speed, 550.

				Boxed for Export			
Fig.		Floor Spare	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
906	With Boring Att., Clamp Table.	3'5" x 3'9"	2 to 4	1,400	2,000	85	**Busbato**
907	With " " Plain "	3'5" x 3'9"	2 to 4	1,400	2,000	85	**Busbox**
908	Without Borer, Clamp "	3'5" x 3'9"	2 to 4	1,300	1,900	85	**Buscarat**
909	Without " Plain "	3'5" x 3'9"	2 to 4	1,300	1,900	85	**Buscateer**

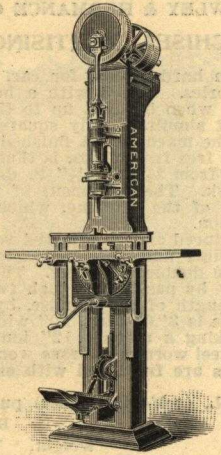


Fig. 913 Houston No. 2 Mortiser.

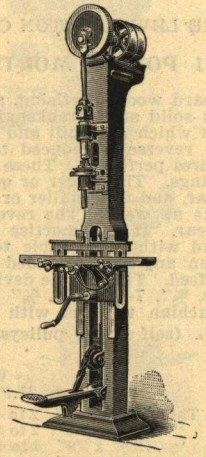


Fig. 914 Houston No. 3 Mortiser.

THE LEVI HOUSTON CO.'S

No. 2 POWER MORTISER.

Substantial machine, used principally for door work, but will do either lighter or heavier work. The connection, spindle, straps and reverse are made of steel, with heavy extra stops on the reverse, so there is no danger of the same breaking off. The reversing arrangement is simple and positive. The conical brass boxes are split and fitted into conical bearings. The larger or quill box has a thread cut on the lower end, with a nut on to take up the wear, and the smaller or spindle box is held with clamp or jamb nuts to take up the wear in it. The reverse is also conical, with nut on the small end for taking up the wear on same. All machines built with tilting table. Provided with boring attachment, when so ordered, same as shown in cut of No. 1 mortiser, Fig. 906. Five chisels are furnished with this machine, 3/8", 7-16", 1/2", 5/8" and 3/4", unless otherwise ordered. The treadle on this machine is arranged with a chain over an idle pulley to raise and lower the table, and relieves the operator from any jar.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 3"; speed, 550.

				Boxed for Export			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
910	With Boring Att., Clamp Table.	3'9" x 3'5"	2 to 4	1,300	1,900	50	**Buscavo**
911	With " " Plain "	3'9" x 3'5"	2 to 4	1,200	1,800	50	**Busdone**
912	Without Borer, Clamp "	3'9" x 3'5"	1 to 3	1,150	1,750	50	**Buse**
913	Without " Plain "	3'9" x 3'5"	1 to 3	1,050	1,650	50	**Bushiness**

THE LEVI HOUSTON CO.'S

No. 3 POWER MORTISER.

Used principally on sash and blind work, but is capable of doing all kinds of light mortising. The connection, spindle, straps and reverse are made of steel, with extra heavy stops on the reverse, so there is no danger of the same breaking off. The reversing arrangement is simple and positive. The conical brass boxes are split and fitted into conical bearings. The larger or quill box has a thread cut on to the lower end, with a nut on to take up the wear, and the smaller or spindle box is held with clamp and jamb nuts to take up the wear in it. The reverse is also conical, with nut on the small end for taking up the wear on same. All these machines are built with tilting table. The treadle on this machine is arranged with a chain over an idle pulley to raise and lower the table and relieves the operator from any jar. Five chisels are furnished with this machine, 1/4", 5-16", 3/8", 7-16", 1/2", unless otherwise ordered.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 3"; speed, 550.

			Boxed for Export			
Fig.	Floor Space	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
914	3' x 3' 2"	1 to 3	750	1,000	42	**Bushmo**

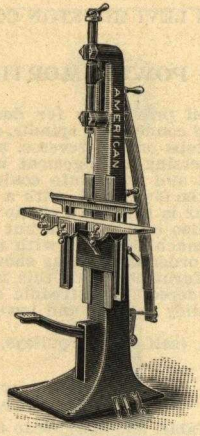
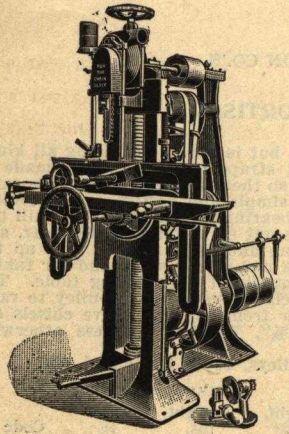
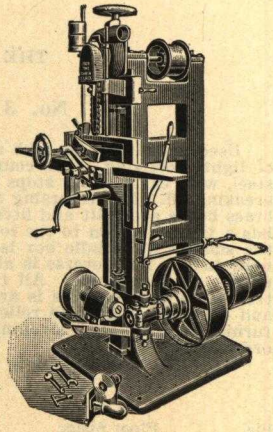


Fig. 915 Rowley & Hermance Foot Mortiser.



No. 2 Standard Chain Saw Mortiser



No. 5 Chain Saw Mortiser.

ROWLEY & HERMANCE CO.'S

HEAVY IRON FRAME FOOT MORTISER.

This is the heaviest foot mortiser in market for the price.

The table is adjustable, up and down and out and in.

The guides are adjustable up and down. The springs are made with four leaves of the best spring steel.

The spindle is steel. The reverse is quick and accurate.

It is furnished with three chisels, one each ¼", ⅜" and ½".

Fig.	Floor Space	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
915	2′ x 2′	500	675	25	Buskin

CHAIN SAW MORTISERS.

The mortise is made by a steel chain, each link of which has a sharpened tooth so formed as to carry out its own chip. The chain is driven by a sprocket and guided by a fixed bar; in the end is an anti-friction bearing. This method does away with boring and core cleaning, and is the most rapid mortiser known. It is recommended for the common run of work in sash, door and blind factories, for refrigerators, screens, furniture, organs, interior finish, cabinet work, agricultural implements, wagons and general joinery.

These machines are built in various sizes to suit different kinds of work. Illustrated descriptive circulars will be mailed upon application.

Fig.		Floor Space	Boxed for Export Weight, lbs.	Cubic ft.	Code
9161	No. 1	3′ 11″ x 5′ 7″	1,450	88	Buskipero
9162	No. 2	3′ 11″ x 5′ 7″	1,500	88	Buskisgaf
9163	No. 3	2′ x 4′ 6″	800	68	Buskitela
9164	No. 5	3′ x 4′	1,200	88	Busludich
9165	No. 6	3′ x 4′	1,300	88	Buslufax

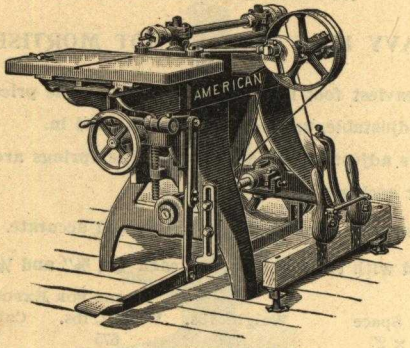


Fig. 920 Clement Bit Mortiser.

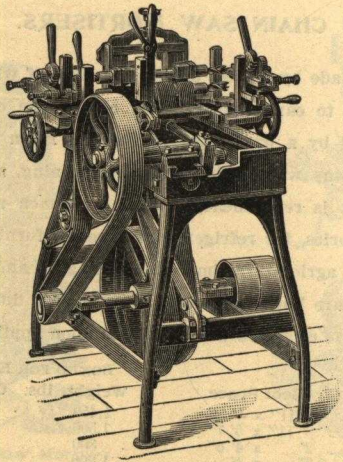


Fig. 921 Pulley Mortiser.

F. H. CLEMENT CO.'S

BIT MORTISER.

Adapted to chair and furniture and other light mortises with half round ends; frame is substantial and supports all the working parts; main spindle, crank shaft and counter are steel; table has horizontal movement for depth of 6", regulated by a stop, also a vertical movement of 9" on gibbed ways; foot lever operates table, or it may be disconnected; when wanted a screw clamp is substituted for the double eccentric bar shown; spindle carries a self-centering chuck taking bit shanks to ¾"; 3 bits are furnished.

Capacity, mortises from ⅝" to 6" long, up to 1" wide and 3" deep. Height of spindle, 3' 2". Countershaft has T. & L. (self-oiling) pulleys, 8" x 4½"; speed, 1,000.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
920	3' x 6' 4"	1 to 2	800	1,100	55	**Busmango**

SASH PULLEY MORTISER.

Cuts four mortises at one operation. There is no hand work necessary after the work leaves the machine. It is easily operated and speedily adjusted. One set (four) boring bits furnished with each machine, either 1", 1⅛" or 1¼".

Countershaft has T & L. pulleys, 7" x 3"; speed, 850.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
921	3' 3" x 3'	1	650	860	40	**Busmate**

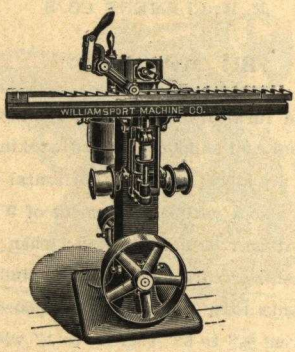
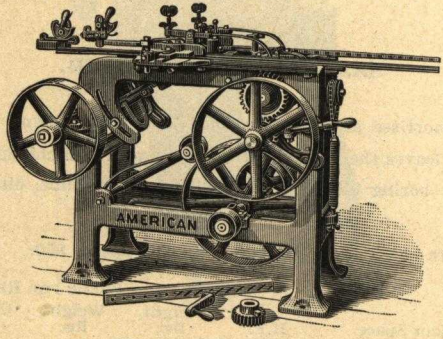


Fig. 922 Williamsport Blind Stile Borer.



Blind Stile Mortiser and Borer.

WILLIAMSPORT MACHINE CO.'S

NEW BLIND STILE BORER.

Will bore two stiles at one time, space and bore the holes at any distance apart from 1" to 1⅞".

The machine is built upon a substantial column with broad base.

The boring spindles are mounted in a heavy frame with connected bearings, and have a vertical movement at each revolution of the feed shaft, to suit the depth of holes being bored.

Main improvement on this machine is the pressure rolls, each being independent of the other, so that if the stiles should vary any in width this independent adjustment will hold them down solid on the table and bore each hole exactly the same distance from the edge of the stile. Capacity, 9,000 holes per hour.

Three pairs boring bits furnished, ¼", 5-16" and ⅜", also interior belts.

Countershaft has T. & L. (self-oiling) pulleys, 6" x 3"; speed, 700.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
922	40" x 38"	2 to 3	500	650	35	**Busolero**

AMERICAN

NEW BLIND STILE MORTISING AND BORING MACHINE.

The Frame is cast in one piece, making it strong and rigid.

The Feed is automatic, and spaces accurately for every hole and mortise.

The Clamping Device is quick-acting and positive. It will not mar the stiles, and has attached to it a gauging device, to which the stiles are set in the proper position. Mortises may be made extra deep for the purpose of pinning slats, without interfering with the operation of the machine.

The Spindles are hung in a yoke provided with sufficient throw to make a mortise 2¼" long on any angle ranging from 20 degrees to 36 degrees. Will work stiles up to 4" wide.

The Eccentric Shaft is provided with set screw in journal box to hold it rigid when the machine is used to bore stiles for pivot blinds, and the set-screw in driving pulley on this shaft is released to allow pulleys to turn on shaft.

We furnish one extra gear to reduce rate of feed for hard wood and car blinds, one set each 5-16" and ⅜" boring bits, and one set ¼" mortising bits, with necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 3"; speed, 800.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
923	7' 4" x 2' 8"	2 to 3	600	900	45	**Busomer**

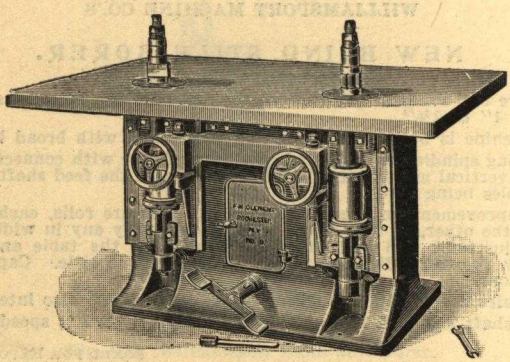


Fig. 924 Clement No. 3 Two-Spindle Shaper.

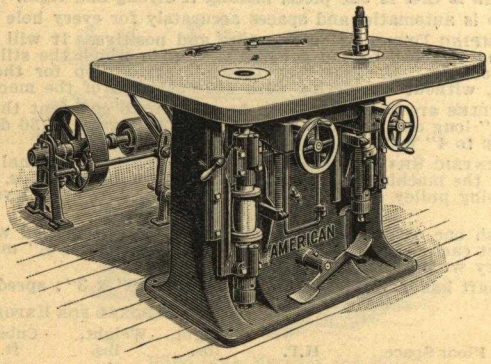


Fig. 929 Clement No. 2½ Two-Spindle Shaper.

F. H. CLEMENT CO.'S

No. 3 HEAVY TWO-SPINDLE SHAPER.

Adapted to medium and extra heavy work; frame is cast in one piece and contains tool closet; spindles are of cast steel, 2" in diameter, with ground journals and self-oiling boxes set 30" apart; top sections are usually 1⅜" in diameter and may be made separable when ordered; two sets (8) of steel slotted collars, one set (4) of knives and pedal belt shifter are furnished; box slides are scraped to bearings with take-up gibs and clamp handles; table is usually of iron, 42" x 62", with removable plates for collars; adjustable belt guide stands are furnished when ordered as an extra. Special conical spindles with bronze boxes to order.

Countershaft has T & L. (self oiling) pulleys, 10" x 6¼"; speed, 1,000 to 1,200.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
924	Iron Table	5'3" x 8'	3 to 5	2,100	2,550	88	**Bussate**
925	Bronze Conical Bearings, Iron Table	5'3" x 8'	3 to 5	2,100	2,550	88	**Bussex**
926	Wood Table	5'3" x 8'	3 to 5	1,800	2,250	88	**Bussike**
927	Adjustable Belt Guide Stands, per pair, extra						**Bussilo**
	Spindles, made in sections, with detachable stems, extra						**Bussopham**
	Extra stems, with one set collars, per pair						**Bussorlet**

F. H. CLEMENT CO.'S

No. 2½ TWO-SPINDLE SHAPER.

Adapted to general work in all wood shops; frame is cast in one piece and contains tool closet; spindles are of cast steel, 1⅝" in diameter, with ground journals and self-oiling boxes set 24" apart; top sections are usually 1⅛" in diameter and may be made separable when so ordered; box slides are scraped to bearings with take-up gibs and clamp handles; table is usually of iron, 38" x 54", with removable plates for collars; two sets (8) of steel slotted collars, four filling collars, one set (4) of blank knives and pedal belt shifter are furnished; belt guide stands supplied on order. Special taper spindles and bronze boxes to order.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 5½"; speed, 1,000 to 1,200.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
929	Iron Table	4'6" x 8'	3 to 4	1,500	1,900	66	**Bustardo**
930	Bronze Conical Bearings, Iron Table	4'6" x 8'	3 to 4	1,500	1,900	66	**Busterike**
931	Wood Table	4'6" x 8'	3 to 4	1,250	1,650	66	**Bustimo**
932	Adjustable Belt Guide Stands, per pair, extra						**Bustlog**
	Spindles, made in sections, with detachable stems, extra						**Bustloham**
	Extra stems, with one set of Collars, per pair						**Bustlohetar**

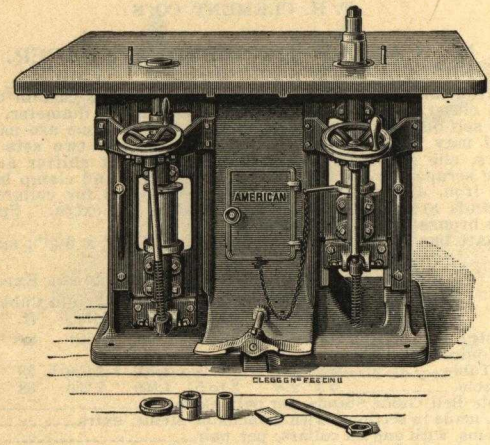


Fig. 933 Rogers No. 6 Two-Spindle Shaper.

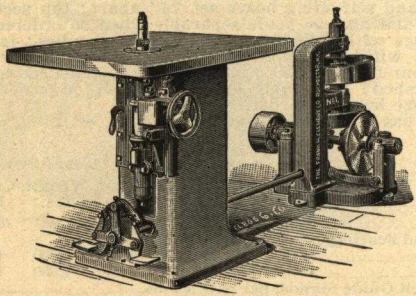


Fig. 937 Clement No. 1 Single Spindle Shaper.

C. B. ROGERS & CO.'S

No. 6 TWO-SPINDLE SHAPER.

This shaper has a solid pedestal frame, yoked boxes, supported by posts extending from the top to base on the outer edge and by the column itself on the inside, insuring the perfect alignment of the spindles, which are 1 9-16" turned down to 1⅛" above the table, and are set 24" apart.

All boxes are of good size and self-oiling. The yokes, with spindles, are raised and lowered by means of hand wheel in front, and may be dropped below the level of the table.

The top, which is of iron, is 44" x 54", and provided with rings of different sizes around the spindles to change the opening.

Each machine is furnished with two pairs of 2½" and 3" heads; other sizes furnished as extras.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 6"; speed, 1,000.

				Boxed for Export		
Fig.	Floor Space	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
933	7' 10" x 4' 4"	3 to 4	1,600	2,500	60	Bustloking

F. H. CLEMENT CO.'S

No. 1 SINGLE-SPINDLE REVERSIBLE SHAPER.

Adapted to light and medium work with either reversible or ordinary cutters; frame is in box form with slide ways cast upon it; the spindle is cast steel with ground journals and self-oiling boxes; spindle yoke is scraped into its ways and there is a take-up gib and clamp handle for it. Table is of iron, 32" x 36", and has a removable center plate; shifter pedal is self-locking and self-releasing; countershaft provides two bearings for the vertical shaft and a sliding yoke for the driving shaft; detachable upper section of spindle is ⅝" in diameter (or larger if required) and has nine differential and two slotted collars.

Driving pulley is 8" x 4½"; speed, 1,000. H. P., 2.

			Boxed for Export			
Fig.		Floor Space	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
937	Iron Table	2' 9" x 8'	1,000	1,350	54	Bustulaffo
938	Wood Table	2' 9" x 8'	1,000	1,350	54	Butadinot
939	18" Dovetailing Att., extra					Butlocus
940	13" " " "					Butlocyte

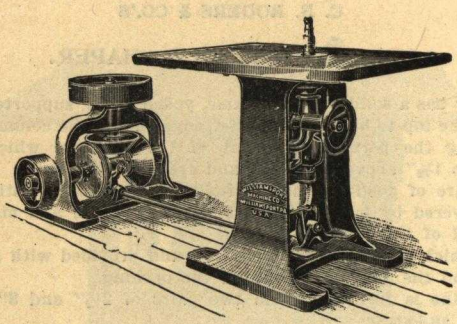


Fig. 941 Williamsport Single Spindle Shaper.

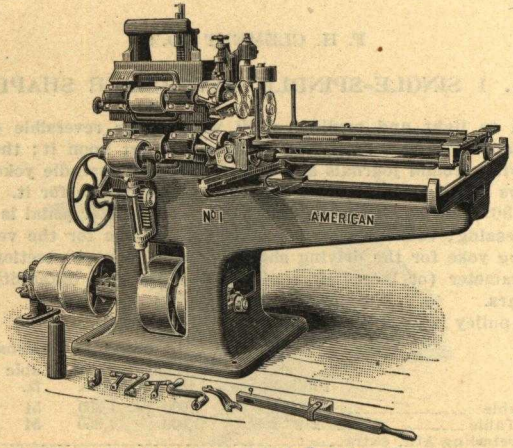


Fig. 9421 American No. 1 Tenoner.

WILLIAMSPORT MACHINE CO.'S

SINGLE SPINDLE REVERSIBLE SHAPER.

The frame is one solid casting, which gives strength and steadiness to the machine.

The steel spindle, where the collars fit on, is 5/8" in diameter, and it, together with its boxes and bearings, can be raised and lowered by the hand wheel at the front of the machine.

The improved friction reverse is a special feature.

The wear is very slight on these frictions, and by their use the troublesome quarter-twist belt is avoided. The reverse is operated by the foot treadle, which is easy of action and free from any jar.

The table is made of iron, and is 40" x 34" in size.

The cutters used can be solid or in sections, and are fitted in collars, thus making a right or left cut in all grains of wood and to a considerable depth.

We furnish with each machine five assorted collars of various sizes, and also two different sized rings to set in the table for making the various cuts.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4"; speed, 850.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
941	7' x 3'	2 to 3	850	1,050	36	**Butulcrum**

AMERICAN

No. 1 TENONING MACHINE.

For door, sash, blind and furniture work. Will cut a tenon 7" long at one operation and 9½" long by twice passing through the machine. Any thickness of tenon can be cut up to 5½" thick by 15" wide.

The frame is cast in one piece, with broad foot flanges, making a very solid and substantial machine.

Both head stocks are adjustable vertically, while the top head stock has also an independent vertical adjustment. The cope head stocks are attached to the main head stocks and adjust with them. They have also independent vertical and horizontal adjustment.

The carriage has a combined roller movement, which greatly facilitates the work both in ease of operation and the quantity turned out. It is provided with guards and cleaning device. It is always in perfect alignment with cutter heads. The hold-down is convenient, and the fence is adjustable to any required angle. The cut-off saw attachment works by a lever and has a graduated scale. It can be regulated to cut different lengths of tenon while the machine is in operation.

The cutter head spindles are 1½" in diameter, pulleys 4½" x 6½", boxes 5" long. Cope spindles are 1" diameter in the boxes and 7/8" diameter where the heads go on.

The countershaft has an adjustable outside bearing beyond the T. & L. pulleys. The T. & L. (self-oiling) pulleys are 11" x 6¼"; speed, 800.

				Boxed for Export			
Fig.	Floor Space		H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
9421	Dble. Heads, two copes.	6' 10" x 6'	2 to 3	1,700	2,300	70	**Butvacto**
9422	Dble. Heads, one cope.	6' 10" x 6'	2 to 3	1,700	2,300	70	**Butvaden**
9423	Dble. Heads, no copes.	6' 10" x 6'	2 to 3	1,700	2,300	70	**Butwang**
9424	Sgle. Heads, two copes.	6' 10" x 6'	2 to 3	1,700	2,300	70	**Butwasp**
9425	Sgle. Heads, one cope.	6' 10" x 6'	2 to 3	1,700	2,300	70	**Butwater**
9426	Sgle. Heads, no copes.	6' 10" x 6'	2 to 3	1,700	2,300	70	**Butwevus**
9427	Rear Cut-off Saw Attachment, extra						**Butwink**

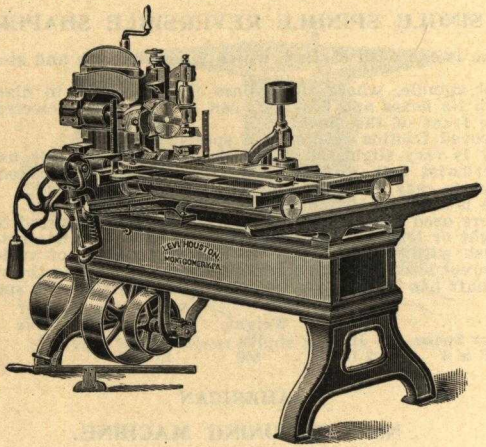


Fig. 951 Houston No. 2 Tenoner.

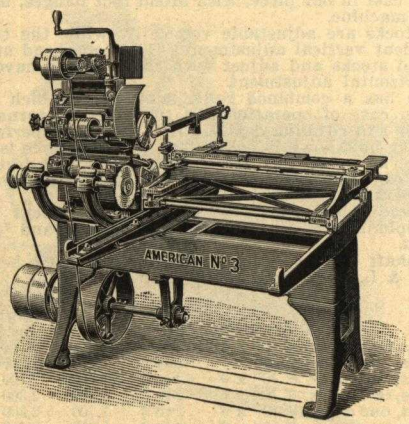


Fig. 958 American No. 3 Tenoner.

LEVI HOUSTON CO.'S

No. 2 TENONER.

It will cut a tenon from ¼" to 7" long, with double heads, at one operation, or by twice passing through will cut 9". The top head stock has horizontal adjustment to allow the shoulders on tenon to be cut at uneven distances from the end, and both head stocks can be moved up and down together without changing the thickness of the tenon. Both cope heads adjust with main head stock, and each cope head also has independent vertical and horizontal adjustment. This machine is provided with combination roller table. The table is perfectly secured to ways with safety gib and stops. It is provided with a positive hold-down. The fence is adjustable to any required angle. The cut-off saw attachment is adjustable and graduated.

Countershaft has T. & L. (self-oiling) pulleys, 10½" x 5"; speed, 800.

Fig.		Floor Space	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
951	Dble. Heads, two copes.	6'3" x 5'7"	2 to 3	1,300	1,800	63	**Byazote**
952	Dble. Heads, one cope.	6'3" x 5'7"	2 to 3	1,300	1,800	63	**Byazure**
953	Dble. Heads, no copes.	6'3" x 5'7"	2 to 3	1,300	1,800	63	**Bybatum**
954	Sgle. Heads, two copes.	6'3" x 5'7"	2 to 3	1,300	1,800	63	**Bybosa**
955	Sgle. Heads, one cope.	6'3" x 5'7"	2 to 3	1,300	1,800	63	**Bycabut**
956	Sgle. Heads, no copes.	6'3" x 5'7"	2 to 3	1,300	1,800	63	**Bycackle**
957	Rear Cut-off Saw Attachment, extra						**Bycad**

AMERICAN

No. 3 CABINET TENONER.

Intended for sash, blind and furniture work. It will cut a tenon 3½" long at one operation, and 5½" long by twice passing through the machine. on stock up to 14" wide.

THE HEAD STOCKS are both adjustable vertically by means of two screws. Top head stock has independent vertical adjustment to change thickness of tenon, and a lateral adjustment for cutting tenons of unequal lengths on opposite sides of the material.

THE COPE HEAD STOCKS are attached to the main head stock, adjusts with them, and have also an independent vertical and horizontal adjustment.

THE COPE COUNTERSHAFT is supported by a heavy cored cast arm.

THE CARRIAGE has a combination roller movement, and is the easiest running carriage ever placed on a tenoner. It is firmly held on the ways and provided with guards and cleaning device. It is also in perfect alignment with cutter heads. The hold-down device is convenient, and the fence is adjustable to any required angle.

THE CUT-OFF SAW ATTACHMENT is provided (for front or rear) when ordered, which is adjustable to any length of tenon desired.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4"; speed, 900.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
958	Sgle. Heads, two copes	5' x 4'	1 to 2	1,000	1,215	55	**Bycademite**
959	Sgle. Heads, one cope	5' x 4'	1 to 2	1,000	1,215	55	**Bycadetto**
960	Sgle. Heads, no cope	5' x 4'	1 to 2	1,000	1,215	55	**Bycaffo**
961	Rear Cut-off Saw, extra						**Bycagus**
9611	Front Cut-off Saw, extra						**Bycala**

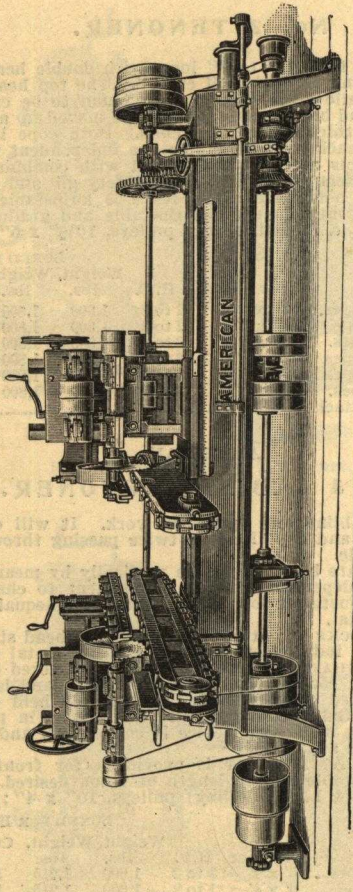


Fig. 968 Clement Improved Double-End Tenoner.

F. H. CLEMENT CO.'S

IMPROVED DOUBLE-END TENONING MACHINE.

FRAME is deep and heavy, with wide side flanges and three points of floor support, obviating springing and twisting.

MOVABLE HEAD STOCK is adjustable by power by means of a lever, and a hand wheel gives a fine adjustment

CUT-OFF SAWS lie in front of tenon heads, are belted independently, and will cut off 12" wide on long stock without tenoning, or 24" wide regularly. One of the idle pulleys is made adjustable, for the purpose of keeping the belt tight which drives the cut-off saw on the right hand side of the machine.

PRESSURE BARS are adjustable vertically and are composed of continuous. independently yielding lapped sections, so that narrow stock can be fed firmly to the ways.

FEED CHAINS are of hard bronze, milled and drilled to gauges, and sprocket wheels are also milled accurately; idler sprockets are adjustable to take up slack.

TENON HEADS are usually 3" face, and may be quickly changed for different kinds of work; they may be 7" wide if so ordered.

FEED WORKS are driven by gears and cone pulleys, have a variation from 9' to 18' per minute, and may be stopped and started by a hand lever convenient to operator; it also operates the tightener on the feed belt.

An end stop gauge guides the stock to the saws and tenon heads.

Capacity is from 2" to 24" wide (or more if ordered), ¼" to 4" thick and 6" to 57" between shoulders; by order, shoulder distance may be 4¾" upward.

Shipping weight, crated. 4,500 to 5,000 lbs. Boxed weight, 6,000 to 6,500 lbs. Cubic feet, 230. H. P., 6 to 8.

Countershaft is of turned steel with five self-oiling bearings; T. & L. (self-oiling) pulleys are 12" x 7¼"; speed, 850.

Fig.		Floor Space	Code
966	With Single Heads, Cut-off Saws, both copes	13' x 9'	**Bycamel**
967	" " " " " lower "	13' x 9'	**Bycampo**
968	" " " " " no "	13' x 6' 11"	**Bycanalgo**
969	" Double Heads, extra		**Bycanary**

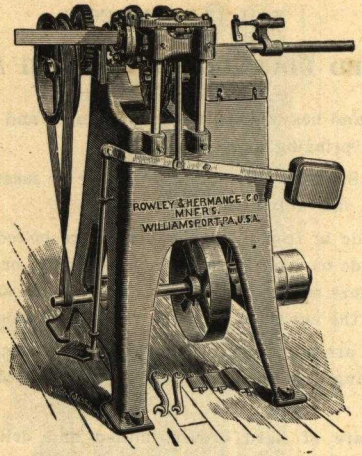


Fig. 970 Rowley & Hermance Self-Feed Slat Tenoner.

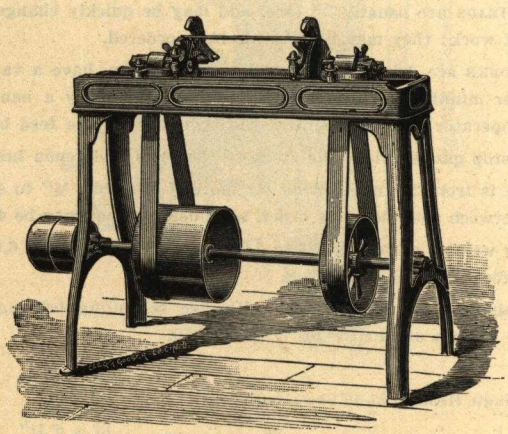


Fig. 971 Ellis Hand-Feed Slat Tenoner.

ROWLEY & HERMANCE CO.'S

PATENT SELF-FEED SLAT TENONER.

For tenoning slats for both outside and inside blinds. The jaws hold the slat firmly while it is being tenoned and release it when the tenon is completed.

These jaws will allow a variation in width of slats of ⅛".

It will tenon slats from ⅞" to 2 1-16" in width, and from 1½" to 24" in length.

The device for holding the slats is self-centering and is so arranged that the tenon can be placed nearer one edge if desired.

Countershaft has T. & L. (self-oiling) pulleys, 6" x 2½"; speed, 900.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
970	2' 6" x 2' 3"	1	400	550	18	Bycandot

ROWLEY & HERMANCE CO.'S

ELLIS PATENT HAND-FEED BLIND SLAT TENONER.

Simplest machine for tenoning slats for outside blinds. It is always ready for use and has a working capacity of 25,000 slats per day.

The wear of the brass disks has always been an objection. We have entirely overcome this by an improvement which is found on no similar machine. The iron circles holding the disks are made in two parts, and are adjustable to take up the wear.

Countershaft has T. & L. (self-oiling) pulleys, 6" x 2½"; speed, 600.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
971	4' x 1' 6"	1	200	300	15	Bycandusto

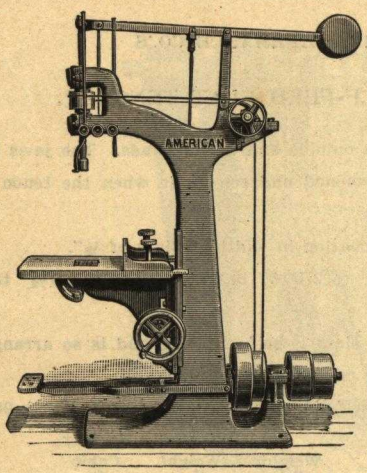


Fig. **972** Rogers No. 2 Vertical Borer.

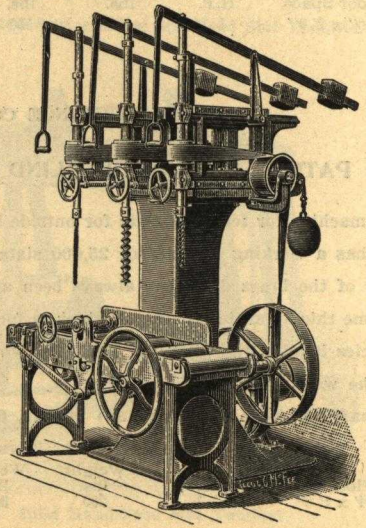


Fig. **973** Rogers Three-Spindle Borer.

C. B. ROGERS & CO.'S

No. 2 VERTICAL BORER.

This is a substantial, well-built machine. The bit is 18" from the post and has a throw of 12". Stops are provided to regulate the depth of hole. The table has a universal movement and may be tilted forward and to either side. The table is adjusted vertically by hand wheel and when at its lowest point the distance from the bit socket to the table is 26½", and when raised to its highest point the distance from the table to the bit socket is 17½". The distance from front of table to guide is 30". The table is 24" wide.

The boring bit may be run at two different speeds.

Bits with 12" twist, equal to sixteen quarters, are furnished with each machine.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4"; speed, 500.

				Boxed for Export		
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
972	5' 6" x 2' 3"	2 to 3	1,450	1,750	68	Bycapeteg

C. B. ROGERS & CO.'S

VERTICAL CAR BORING MACHINE.

WITH THREE SPINDLES.

Has three spindles, operated by the handles connected with the weighted levers at the top and driven by one belt from a countershaft at the back of the machine.

The middle spindle has a larger pulley than the other two, for slower speed to work the larger bits.

Seventeen bits are furnished, varying from ⅜" to 2", all above 1⅜" to work in the middle spindle.

The bits have a horizontal adjustment of 15", and vertical throw of 16".

The bed upon which the timber rests is furnished with four rollers, which can be operated by the hand wheel or by the lever which operates the friction power feed attachment from the countershaft.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 5"; speed, 275.

				Boxed for Export		
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
973	4' 11" x 5' 2"	2 to 5	3,000	3,600	80	Bycapole

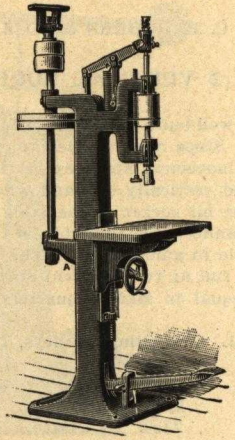


Fig. 974 Clement No. 3 Vertical Borer.

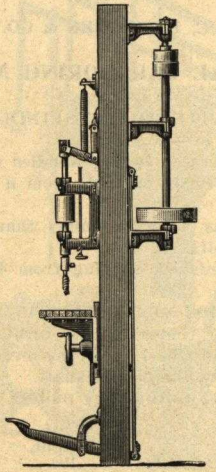


Fig. 976 Clement No. 2 Post Borer.

F. H. CLEMENT CO.'S

No. 3 VERTICAL BORER.

All iron and steel except the table, which is of wood, 16" x 32". Frame is cast hollow in one piece; spindle is of steel, 1½" in diameter, and hangs 12" from post, with a stroke of 5"; boxes are self-oiling and are longer than the stroke of the spindle; table bracket has vertical adjustment of 13", with adjustable gib, and slide bearings scraped; depth gauge has screw adjustment and a clamp screw; the weight of the spindle and its pulley is balanced by the bar connecting the operating levers, so that quick and easy work is insured.

A tilting table can be provided, at extra cost, which will tilt either to and from the operator, or sideways, as may be desired. No bits furnished. Shank of bits ½" diameter.

The countershaft has three bearings, the lower one being adjustable vertically 3' to accommodate the ceiling. T. & L. (self-oiling) pulleys are 8" x 3½"; speed, 1,000 to 1,200. H. P., 1 to 1½. Extreme height, 7'. Floor space, 2' x 4' 4".

Fig.		Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
974	With plain Bit Socket	800	1,100	45	Bycatomus
9741	Tilting Table, extra				Bycatrofe
975	Self-centering Chuck, extra				Bycaul

F. H. CLEMENT CO.'S

No. 2 POST BORER.

Adapted to chair, furniture, carriage, carpenter and similar shops. Post is of dry whitewood, glued up, and is usually 8" x 8" x 12'; spindle is of steel, 1 1-16" in diameter, and its boxes are longer than the stroke, are self-oiling, and cast together and planed on the back; table is of hard wood, 14" x 28", and its bracket adjusts 13" vertically. A tilting table can be provided, at extra cost, which will tilt either to and from the operator, or sideways, as may be desired. No bits furnished. Bit shanks are ½" diameter. A depth gauge is provided, and the weight of the spindle and pulley is counterbalanced by the bar connecting the operating levers.

Capacity, 5" deep, up to 2" in diameter and to center of 18" diameter, any length. Countershaft has 8" x 3½" T. & L. (self-oiling) pulleys; speed, 1,200. H. P., about 1. Floor space, 4' x 2' 4".

Fig.		Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
976	With Plain Bit Socket	500	725	47	Bycavato
9761	Tilting Table, extra				Bycazzo
977	Self-centering Chuck, extra				Bycoma

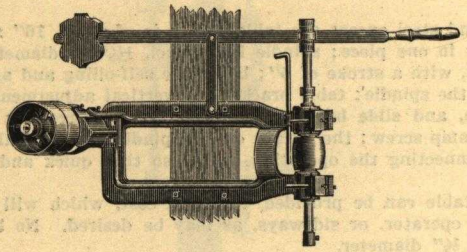


Fig. 978 Rowley & Hermance Post Borer.

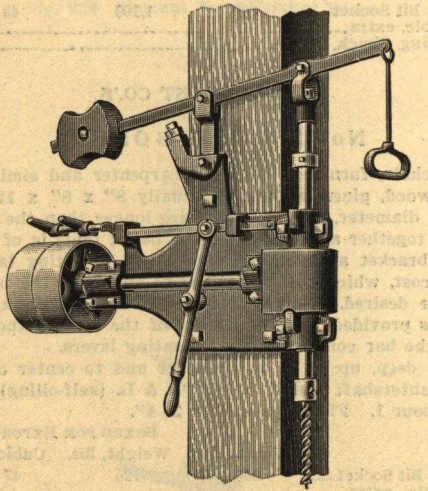


Fig. 979 Houston Post Borer.

ROWLEY & HERMANCE CO.'S

POST BORER.

Boring spindle is driven by belt. Has throw of 8". Depth regulated by a stop. Distance from center of spindle to first bolt holes in frame, 10". No bits furnished with machine. Diameter of shank, ½".

Countershaft has T. & L. (self-oiling) pulleys, 6" x 3"; speed, 800.

			Boxed for Export		
Fig.	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
978	1 to 2	150	225	10	**Bycurate**

LEVI HOUSTON CO.'S

POST BORER.

Boring spindle is driven by bevel gears. Has throw of 7½". Depth regulated by set collar on spindle. Distance from center of spindle to first bolt holes in frame, 6¼". No bits furnished with machine. Diameter of shank, ½".

Countershaft has T. & L. (self-oiling) pulleys, 8" x 3"; speed, 800.

			Boxed for Export.		
Fig.	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
979	1 to 2	150	225	10	**Bycuronga**

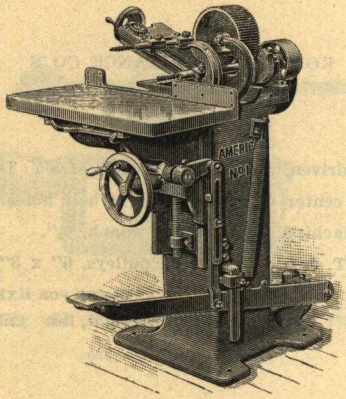


Fig. 980 Clement No. 1 Double Radial Borer.

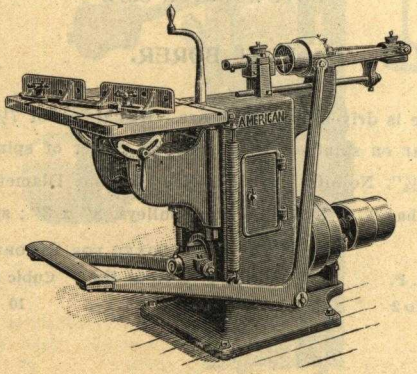


Fig. 982 Clement No. 2½ Borer.

F. H. CLEMENT CO.'S

DOUBLE HORIZONTAL BORER WITH RADIAL ADJUSTMENT.

Designed for doweling and chair and furniture work. All iron and steel except the table; frame is cast in one piece, with tool closet; spindles are crucible steel, mounted in a head which is radially adjustable about the main spindle from a horizontal to a perpendicular; table moves vertically 10" and horizontally 6", with a gauge to limit depth. Main gear is 4" face and all gears are accurately cut. No. 2 machine has cone pulleys for two speeds. Countershaft should be located overhead to equalize wear. Capacity No. 1, 1" to 10" apart and 5" deep. No. 2, 16" apart and 5" deep, and from ⅛" to ¾" in diameter. Bits carry screw shanks. One pair ⅜" or 7-16" bits furnished. Countershaft has T. & L. (self-oiling) pulleys, 8" x 3¾"; speed, 600.

				Boxed for Export			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
980	No. 1	5' x 2' 4"	1 to 2	850	1,125	42	**Bydabule**
981	No. 2	5' x 2' 4"	1 to 2	850	1,125	42	**Bydadis**

F. H. CLEMENT CO.'S

No. 2½ HORIZONTAL BORER.

Adapted to general work in all kinds of wood working shops. Frame is cast in one piece, and carries countershaft boxes at the base; boring spindle is of steel, 1 5-16" in diameter, splined in a steel sleeve, and its three boxes are self-oiling; the steady box next the work prevents the dodging of the bit; foot lever is doubled and the vertical lever pulls directly on the center line of the spindle; table is of iron, 18" x 32", tilts to 45 degrees to and from the frame, and will drop 10". The adjustable fence can be clamped in any desired position, square, parallel to or at an angle with the boring spindle. No bits furnished. Diameter of shank, ½".

Capacity to 3" diameter and 12" deep. Countershaft has T. & L. (self-oiling) pulleys, 8" x 4½"; speed, 1,000. H. P., 2. Floor space, 6' x 2' 8".

		Boxed for Export			
Fig.		Weight, lbs.	Weight, lbs.	Cubic ft.	Code
982	With plain Bit Socket	950	1,250	47	**Bydagum**
983	Self-centering Chuck, extra				**Bydakstan**

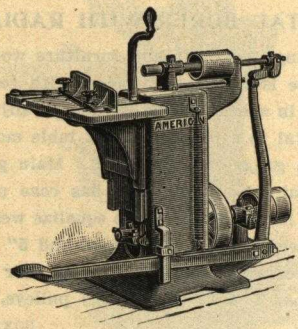


Fig. 984 Clement No. 1 Borer.

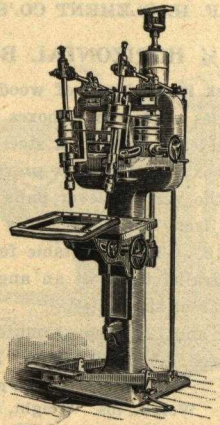


Fig. 985 Clement Double Chair Borer.

F. H. CLEMENT CO.'S

No. 1 HORIZONTAL BORER.

Adapted to medium boring in all wood shops; all iron and steel except table, which may be of iron if ordered; spindle is 1 1-16" in diameter and slides in its boxes, which are longer than the stroke; an adjustable stop rod determines the depth of the hole; table is 14" x 28", and has an iron bar or "fence" adjustable to 45 degrees horizontally; vertical movement of table is 10"; hand crank is detachable.

Capacity, 4½" deep and to 2" in diameter, and to the center of 20" vertically; hole in bit socket ½" in diameter usually. No bits furnished.

H. P., about 1. Floor space, 5' x 2' 4".

Countershaft has T. & L. (self-oiling) pulleys, 7" x 3¼", and should run 1,200 r.p.m.

Fig.		Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
984	Wood Table	600	800	23	**Bydaltic**
9841	Self-centering Chuck, extra				**Bydalvane**

F. H. CLEMENT CO.'S

DOUBLE CHAIR BORER (PATENTED).

For chair, furniture and similar work. Frame is cast in one piece. Spindle yokes swing apart from a common center and the belts are always taut; spindles are of steel, with self-oiling boxes arranged to tilt to an angle; furnished with self-centering chucks. Iron table adjustable 15" vertically and to 45 degrees angle to and from the frame. The foot levers may be worked together or separately, and the balance levers have ball and socket joints. Stop rods for depth are provided. Countershaft is usually 8' long and is adjustable vertically to the ceiling, with a bearing at the top.

Capacity is from 5" to 30" apart on the spindles, and they hang 21" from the frame and bore 5" deep. No bits furnished. Countershaft has T. & L. (self-oiling) pulleys, 8" x 4½"; speed, 1,100. Extreme height, 7' 6".

Fig.	Floor Space	H.P.	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
985	3' x 4' 4"	2 to 3	1,500	1,900	82	**Bydamus**

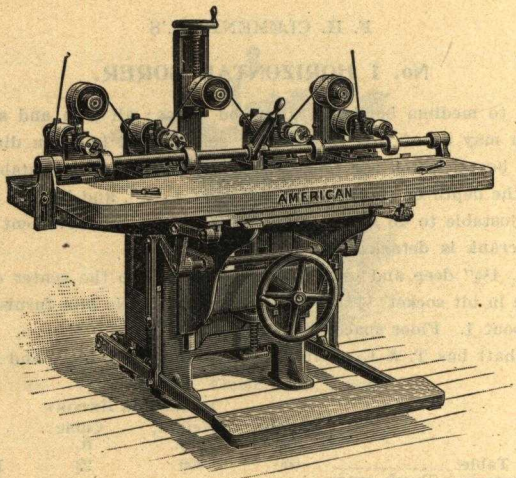


Fig. 986 Clement Multiple Borer.

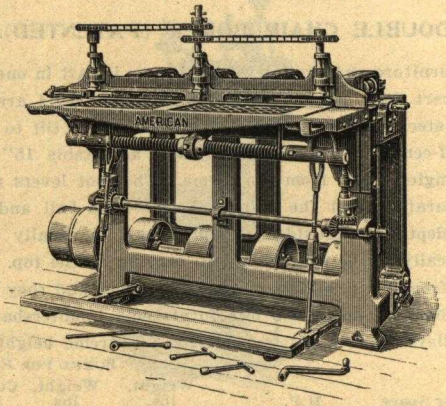


Fig. 988 Houston Multiple Borer.

F. H. CLEMENT CO.'S

MULTIPLE BORER.

Adapted specially to boring "table filling," or tops and other work requiring to be specially accurate. All iron and steel except the table, which is kiln dried and glued up of hard wood; spindles are steel, with long, ground bearings; box yokes are adjustable vertically to same horizontal line, and also horizontally by means of screws at end of frame; two binder pulleys move with box yokes and the third adjusts with screw and hand wheel; table moves vertically 8" and horizontally 6"; outside spindles spread to 54", and all close to 6½" centers; eccentric clamp receives ¼" to 4" thick or more if required; self-centering chucks on all spindles; table moves by double treadle, with quick return. One set of bits is furnished.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 5¼"; speed, 750.

				Boxed for Export			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
986	Four-Spindle Borer	5'4" x 4'4"	2 to 3	1,900	2,400	106	**Bydanco**
987	Three " "	5'4" x 4'4"	2 to 3	1,900	2,400	106	**Bydarfing**

LEVI HOUSTON CO.'S

IRON FRAME MULTIPLE BORING MACHINE.

Designed for rapid and accurate work. Specially suited for boring table leaf work, furniture and agricultural work. The frame is iron, perfectly true. The mandrel yokes slide on planed ways, and are adjustable to and from the center mandrel by a hand wheel, and each driven by an independent belt. The table works on planed ways and is raised and lowered with screws. The treadle is connected to the table by adjustable rods to regulate the throw of the table; released, the table returns to its original position. The throw of table is 2¾", the clamping is operated by one crank handle in the center, clamping the stock down to the planed surface of the table, and in connection with the end stop it is impossible to bore the holes out of line. The machine can be made with three or more spindles. The bits will bore as close as 4" from center to center, and the extreme distance between centers of the two outside bits is 3' 3½". The machine will take in bits up to 1" in diameter and will take in stock up to 4' 4½" long, regularly, but may be made to take in longer stock at an extra cost. We furnish with each machine one set of ⅜" bits. Diameter of shank, ⅜".

Countershaft has T. & L. (self-oiling) pulleys, 10" x 5½"; speed, 750.

				Boxed for Export			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
988	Three Spindles	5'8" x 3'5"	2 to 3	1,000	1,400	49	**Bydargot**
989	Four Spindles	5'8" x 3'5"	2 to 3	1,050	1,450	49	**Bydash**
990	Five Spindles	5'8" x 3'5"	2 to 3	1,100	1,500	49	**Bydasook**
991	Six Spindles	5'8" x 3'5"	2 to 3	1,150	1,550	49	**Bydault**

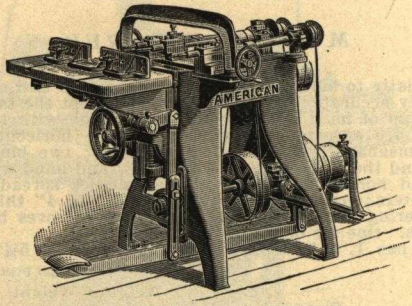


Fig. 992 Clement Triple Dowel Borer.

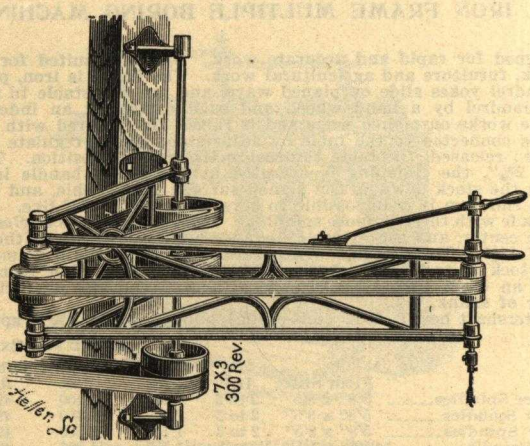


Fig. 993 Rowley & Hermance Pin Borer.

F. H. CLEMENT CO.'S

TRIPLE DOWEL BORER.

Adapted to the lighter grades of work in chair, furniture, sash and door and carpenter shops; frame is specially heavy and rigid; spindles are of steel, two of them carrying universal joints made of hardened tool steel; there are three boxes on each adjustable spindle, and all boxes are divided for adjustment; table slides horizontally 6" on gibbed ways, and moves vertically 9" by hand wheel and screw; a tightener pulley takes up slack of driving belt; the fence on the table is adjustable to an angle.

Capacity. up to ¾" in diameter and 5" deep; spindles spread from 1¼" to 10" apart. Furnished with three screw shank bits. Countershaft has T. & L. (self-oiling) pulleys, 8" x 4¼"; speed, 500.

				Boxed for Export		
Fig.	Floor Space	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
992	2'4" x 6'	2	900	1,150	51	**Bydeba**

ROWLEY & HERMANCE CO.'S

PIN BORING MACHINE.

Is operated by simply pressing the hand on a spring, and on removing pressure the bit is immediately withdrawn. No bits are furnished. Diameter of shank, ½". The No. 2, 8' long, is intended for doors and blinds. No. 1, 4' long, for sash. H. P., 1 to 2. Countershaft has T. & L. (self-oiling) pulleys, 7" x 3"; speed, 300.

			Boxed for Export		
Fig.		Weight, lbs.	Weight, lbs.	Cubic ft.	Code
993	No. 2, eight feet long, without Bits.	220	300	15	**Bydecimo**
994	No. 1, four " " " "	188	275	15	**Bydefus**

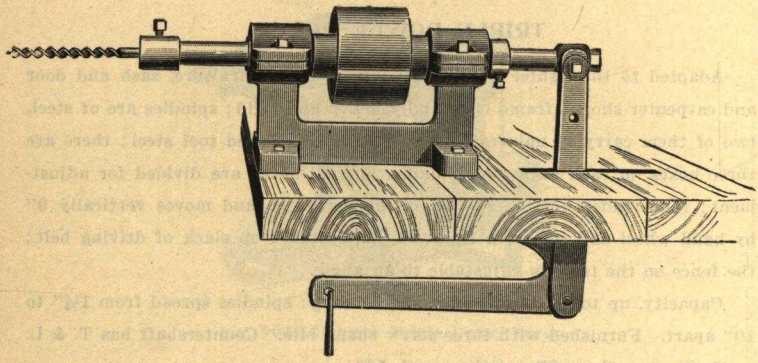


Fig. 995 Rogers No. 2 Bench Borer.

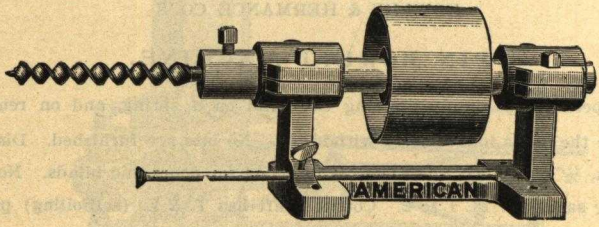


Fig. 996 Rogers No. 1 Bench Borer.

C. B. ROGERS & CO.'S

No. 2 BENCH BORER.

WITH LEVER AND TREADLE ATTACHMENT.

This will be found a very handy tool. The spindle has a throw of 8", and is provided with stop collar to regulate depth of hole. We furnish with each machine a lever, connecting rod and iron brackets, so that the spindle may be operated by means of a foot treadle.

Distance from center of spindle to base of machine, 5½". Takes bits with shanks 2" long, ½" in diameter. Suited for boring holes up to 1½" in diameter. **No bits furnished.**

The pulley is 5" in diameter, 3½" face; speed, 1,200 to 1,500.

		BOXED FOR EXPORT		
Fig.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
995	115	130	3	**Bydeleg**

C. B. ROGERS & CO.'S

No. 1 BENCH BORER.

A convenient tool for any kind of light work, as it can be set on a bench or in any convenient place and takes up but very little room. Distance from center of spindle to base of machine, 4½". It takes bits with shank 2" long, ½" in diameter, and is suited for boring holes up to 1½". No bits furnished.

Pulley is 5" in diameter, 3½" face, and should make 1,200 to 1,500 r.p.m.

		BOXED FOR EXPORT		
Fig.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
996	50	60	3	**Bydelgate**

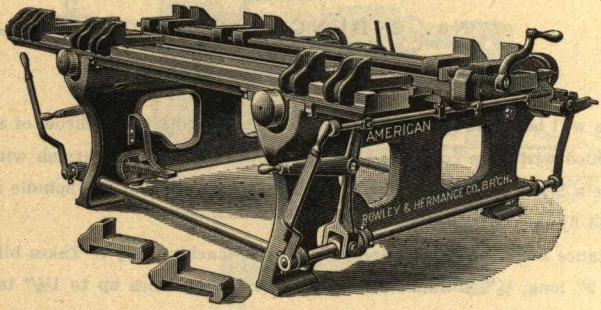


Fig. **997** Rowley & Hermance Screw-Feed Door Clamp.

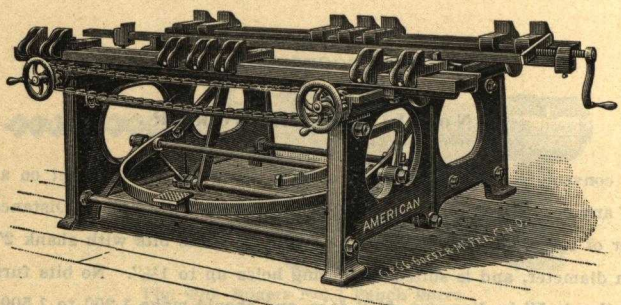


Fig. **999** Rowley & Hermance Special Heavy Door Clamp.

ROWLEY & HERMANCE CO.'S

NEW AND IMPROVED SCREW POWER FEED DOOR CLAMP.

Operated by large screws driven by powerful worm gears. The screws operating the movable slab are of steel and large diameter, with heavy square thread and provided with crucible steel nut on each screw. The upright lever on the left-hand end of the machine starts the clamp, and the horizontal lever at the same end will stop the operation at any desired point. The vertical lever on the right-hand end of the clamp releases the door by reversing the clamp, and the horizontal lever on the same end will stop the movable slab at any desired point. The door is released by a slight pressure of the vertical lever on the right-hand end, which reverses the motion and opens the clamp. Built in two sizes: 8′ long and 10′ long, and both sizes will open 4′ 6″ wide. Each machine is furnished with 12 dogs.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 3″; speed, 1,050.

				Boxed for Export			
Fig.	Size	Floor Space	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
997	4′6″ x 8′	7′2″ x 9′	3 to 5	3,600	4,300	150	**Bydeloro**
998	4′6″ x 10′	7′2″ x 11′	3 to 5	4,100	4,900	160	**Bydemitis**

ROWLEY & HERMANCE CO.'S

SPECIAL HEAVY DOOR CLAMP.

This machine is the same in general mechanical operation as Fig. 1000, described on page 239. It is specially designed to clamp large doors. The frames are very heavy, securely bolted together by strong brace rods of large diameter, making it the heaviest and most powerful foot clamp on the market. Will clamp 8′ or 10′ long by 4′ 6″ wide; is supplied with 14 dogs.

				Boxed for Export		
Fig.	Size	Floor Space	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
999	4′6″ x 8′	8′ x 6′	2,500	2,900	142	**Bydempos**
9991	4′6″ x 10′	10′ x 6′	2,800	3,200	152	**Bydemroth**

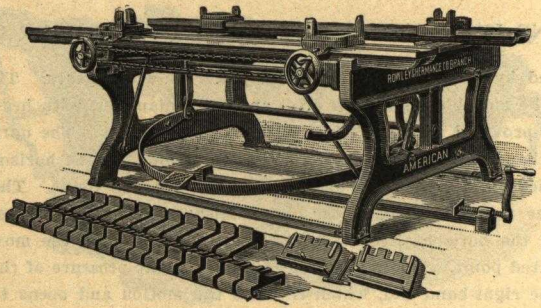


Fig. 1000 Rowley and Hermance Door and Blind Clamp.

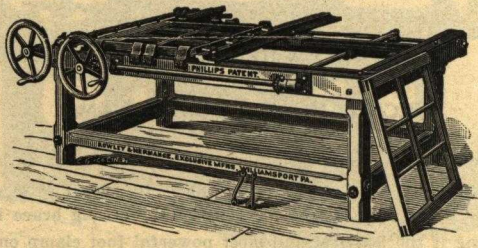


Fig. 1004 Rowley & Hermance Sash Clamp.

ROWLEY & HERMANCE CO.'S

SINGLE-MOTION DOOR AND BLIND CLAMP.

Operated simply by pressing down one lever with the foot and moving the end screw by hand. Also provided with a foot treadle for releasing the door and opening the clamp. Change from one size to another can be quickly made. By the arrangement of levers the cross pressure is applied when the joint is nearly closed or where the increased resistance must be overcome. At this point the cross rod passing through the four horizontal bars rises slightly above the center line, holding the clamp closed until the door is wedged. Adjusting hand wheels have sprockets and are connected by a link chain. The machine is also supplied with sash attachment at extra cost, which will clamp sash on four sides perfectly square. Each machine supplied with 12 long dogs for doors and 16 short dogs for blinds.

			Boxed for Export			
Fig.	Size	Floor Space	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1000	4′ x 8′ Doors and Blinds.	5′6″ x 8′6″	1,700	1,975	50	**Bydemur**
1001	4′ x 8′ with Sash Att.	5′6″ x 8′6″	1,800	2,075	50	**Bydesky**
1002	4′ x 10′ Doors and Blinds.	5′6″ x 10′6″	1,800	2,075	50	**Bydexter**
1003	4′ x 10′ with Sash Att.	5′6″ x 10′6″	1,900	2,200	50	**Bydonapo**

ROWLEY & HERMANCE CO.'S

WOOD FRAME SASH CLAMP.

A strong, well-built machine. Quick and positive in operation. By turning the large hand-wheels the sash is clamped on all sides at once perfectly square. The pressures on the stiles and rails are independent of each other and can be regulated at will, a very important point in doing good work. Will clamp 4′ x 6′ to 1′ x 2′. We furnish with each machine one set (20) assorted dogs.

			Boxed for Export		
Fig.	Floor Space	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1004	8′ 5″ x 6′	950	1,370	50	**Bydorma**

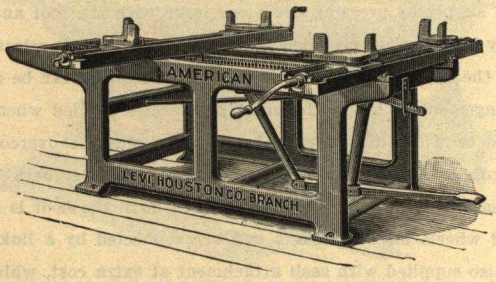


Fig. **1005** Houston Sash Clamp.

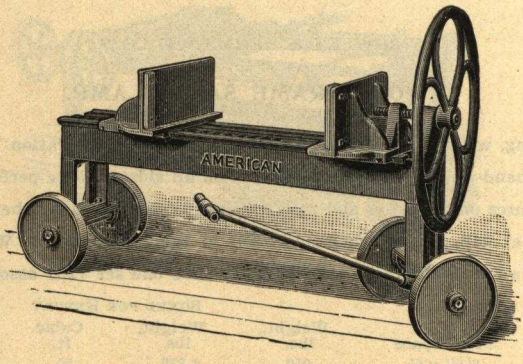


Fig. **1006** Clement Drawer Clamp.

LEVI HOUSTON CO.'S

IRON FRAME SASH CLAMP.

The frame is cast in one solid piece, well braced and perfectly rigid in every way, calculated to stand any strain that may be put upon it in clamping sash.

The dogs on the four corners are pivoted and brought up against the four sides of the sash by a single operation of the treadle, clamping it perfectly square. They are held there by a rack till the sash is pinned or wedged, when the rack bar may be touched with the hammer and the four dogs recede, releasing the sash.

The dogs may also be moved in and out by means of right and left hand screws. It will clamp sash 5′ x 7′ down to 12″ square.

			Boxed for Export		
Fig.	Floor Space	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1005	8′ 6″ x 6′	1,200	1,500	96	**Bydozit**

F. H. CLEMENT CO.'S

DRAWER CLAMP—WITH AND WITHOUT TRUCKS.

This tool consists of a bed planed true on top to receive two sliding angle plates, one of which moves by a screw and large hand-wheel, and the other is adjustable by means of a locking rack with 2″ spaces. Both plates are gibbed on 45 degree angled ways and have vertical stops or ledges and horizontal flanges facing each other upon which the work rests; plates and flanges are planed perfectly square and true so that the drawer when pressed together is correct. Capacity, 48″ x 22″ x 10″. Machine is furnished, as shown, with trucks for easy shifting, or plain, to rest on trestles or blocks.

				Boxed for Export		
Fig.		Floor Space	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1006	Complete	6′ 4″ x 3′	1,100	1,250	48	**Byfacedo**
1007	Without Trucks.	6′ 4″ x 3′	900	1,050	40	**Byfactum**

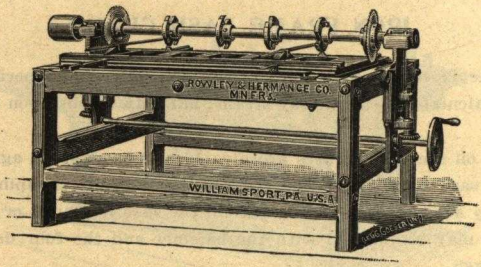


Fig. 1008 Rowley & Hermance Dado Machine.

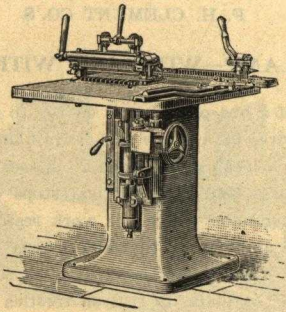


Fig. 1010 Clement Independent Dovetailer.

ROWLEY & HERMANCE CO.'S

FIVE-HEAD DADO MACHINE.

Designed for furniture factories, for case ends, cupboard and sink ends, and any work where it is desired to cut one or more grooves at an operation. There are five dado heads, 7" in diameter. Can be raised 6" above table and will cut a gain through stock 20" wide, 1" deep. Distance between saws on standard machine, 5'. Can be made longer, with additional heads, at extra price. One end of the arbor is provided with a cut-off saw attached to one of the heads and cutting on a line with the outer edge of the dado bit; the other end of arbor is also provided with a cut-off saw mounted on a sliding collar. The carriage is operated on rolls. We furnish with regular machine five dado heads, with cutters, and two saws.

Arbor pulley is 6" x 6"; speed, 3,000.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1008	7' x 4' 6"	1 to 2	1,200	1,500	65	**Byfaust**
1009	Extra Heads, each					**Byfirmus**

F. H. CLEMENT CO.'S

INDEPENDENT DOVETAILER.

Frame is cast in box form; spindle is hard steel with ground journals and self-oiling boxes; spindle yoke is planed and scraped into bevel ways on the frame with a take-up gib; table is of iron, 32" x 36"; top end of spindle is threaded to receive a chuck for dovetail cutters or a spindle and collars for shaper knives; cuts 13" or 18" wide, as ordered; dovetail attachment is removable, and machine can be used as a shaper.

H. P., 2. Floor space, 2' 9" x 7'.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 3¾"; speed, 900.

		Boxed for Export			
Fig.		Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1010	13" Dovetailer and Plain Counter	900	1,250	53	**Byforlord**
1011	18" " " " "	900	1,250	53	**Byfundy**
1012	Reversible Counter, extra				**Byfusa**
1013	Shaper Spindle and nine Collars, extra				**Bygabos**

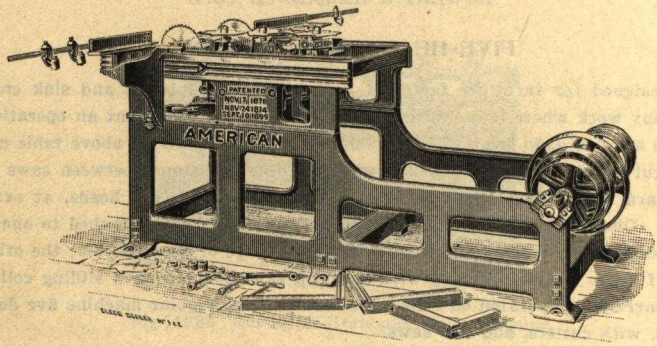


Fig. **1014** Houston Sash Dovetailer.

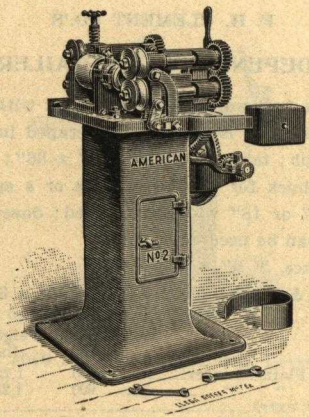


Fig **1017** Clement Power-Feed Dowel Machine.

THE LEVI HOUSTON CO.'S

SASH DOVETAILING MACHINE.

Adapted for dovetailing the mortises on sash stiles and the tenons on the check rails perfectly and rapidly at a single operation. It is fitted on one side with a sliding adjustable table, and two upright adjustable mandrels to complete the dovetail on stiles at one operation, and the mandrel nearest the countershaft is provided with an accurate lever device, by means of which the operator can instantly change from dovetailing bottom stiles to dovetailing top stiles of same thickness without stopping the machine. The other side is fitted with an adjustable tilting sliding table, also provided with a roller, to reduce friction, and with an adjustable fence to suit thickness of check rails. The joints for at least 800 windows per day can be made. With each machine we furnish extra grooving saw, eight extra collars and necessary wrenches.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4"; speed, 800.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1014	6' 8" x 7' 8"	2 to 3	1,075	1,400	62	**Bygader**

F. H. CLEMENT CO.'S

POWER-FEED ROD AND DOWEL MACHINE.

A compact, carefully designed and well-fitted tool in all details. Main arbor is hammered crucible steel; bearings are 3" and over long; frame is a single hollow casting; feed rolls are all geared and forward pair are self-centering; a reverse lever backs out imperfect stock, and there are three rates of feed, from 16' to 35' per minute; cutter heads are threaded into the arbor and have two curved knives. Countershaft has adjustable hangers and self-oiling loose pulley. Two cutter heads and eight feed rolls are furnished on the Nos. 0, 1 and 2 sizes, and 12 feed rolls on the No. 3. H. P., Nos. 0 and 1, 2; No. 2, 3; No. 3, 4. Floor space, Nos. 0 and 1, 2' 8" x 2' 10"; No. 2, 2' 8" x 3'; No. 3, 2' 8" x 3'.

						Boxed for Export			
Fig.	No.	Turns to pc. Turn	Shortest	T. & L. Pulleys	Speed	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1015	0	½"	8"	8" x 4¼"	1,000	750	1,050	32	**Bygaily**
1016	1	1¼"	16"	8" x 4¼"	1,000	750	1,050	32	**Bygalvo**
1017	2	1½"	18"	10" x 5¼"	1,000	900	1,200	34	**Bygamud**
1018	3	2"	20"	10" x 6¼"	900	1,100	1,400	34	**Bygapo**
1019	Extra sets of Feed Rolls								**Bygarneto**
1020	Extra Cutter Head								**Bygarone**
1021	Extra Knives, each								**Bygarvig**

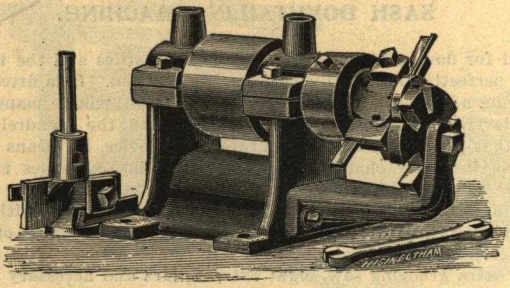


Fig. **1022** Clement Hand-Feed Dowel Machine.

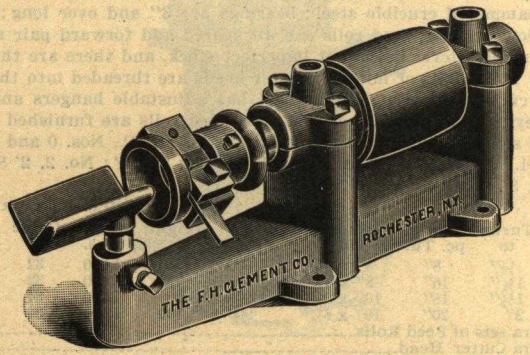


Fig. **10251** Clement Chucking Arbor.

F. H. CLEMENT CO.'S

HAND-FEED DOWEL MACHINE.

This machine is made in three sizes—viz., No. 1, to turn ⅞", inclusive; No. 2, to 1⅜", and No. 3, to 1⅞".

THE CUTTER HEADS are threaded into the arbor, so as to change sizes; one size head is furnished, and a stick holder is provided, so as to keep the stock from turning around.

Unless otherwise ordered, two knives are put into each head, and they are so arranged as to cut very freely and be readily removed for sharpening.

Fig.		Size of Pulley	Speed	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1022	No. 1	4" x 3"	4,500	40	60	2	Bygashum
1023	No. 2	4½" x 3½"	4,000	50	70	2	Bygate
1024	No. 3	5⅛" x 3⅝"	3,600	60	80	2	Bygaudy
1025	Countershaft, extra						Bygavom
	Extra Heads, each						Bygaza
	Extra Knives, each						Bygedan

F. H. CLEMENT CO.'S

CHUCKING ARBOR.

For making round tenons of any size or length for chair, furniture, carriage and job work.

THE ARBOR is of steel and is threaded at the end to receive the cutter head. The bearings are of fine babbitt metal, and are carefully scraped to the journals.

THE CUTTER HEADS are usually furnished with one knife, making a shoulder of 45 degrees angle, but this can be varied to order, and round, square or tapering shoulders can be made. When required, two knives are furnished in each head at a slight extra charge.

A STOP ROD is provided in each head to regulate the depth of the cut, which is adjustable by means of the set screws shown.

THE STICK HOLDER or rest is accurately aligned with the arbor so as to insure parallel tenons, and it can be adjusted to stock of various sizes.

All the parts are carefully fitted, and the heads cut freely so as to do quick and accurate work.

Fig.		Size of Pulley	Speed	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
10251	Arbor and Frame	4" x 4½"	4,000	46	60	1	Bygedel
10252	Countershaft, if wanted, extra						Bygelum
	Regular Heads, one Knife						Bygelvis

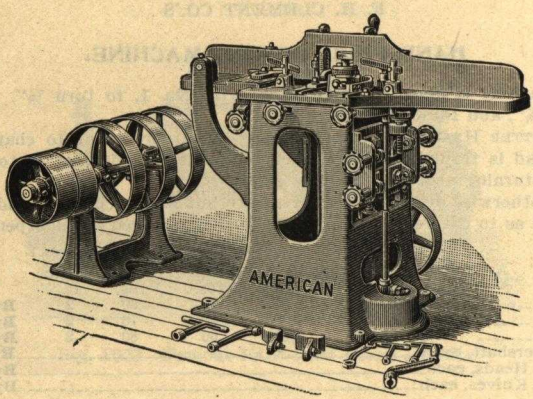


Fig. 1026 Houston Panel Raiser.

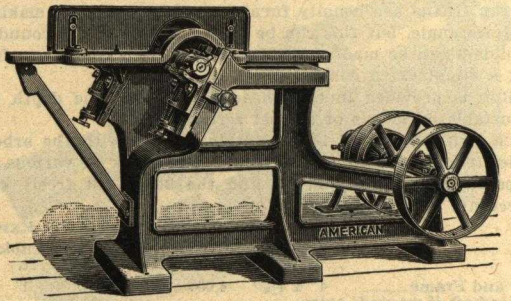


Fig. 1028 Williamsport Panel Raiser.

LEVI HOUSTON CO.'S

POWER-FEED PANEL RAISER.

This machine is substantially constructed, and will work panels on one or both sides at one operation. The peculiar form of cutters gives them a drawing cut, working readily on either hard or soft woods smoothly. It is provided with new combination heads, which admit of changing the moulding cutters so as to produce a shoulder, bevel, ogee or any other style of moulding desired on the panel without disturbing the other cutters. The head stocks may be raised or lowered together or independently. The table is hinged at the end and swings up to give access to heads, etc.

The standard machine is supplied with an attachment for chamfering the edge of the panels so that they will fit into the grooves of the door, rail and stile without subsequent hand fitting. This attachment leaves no rough edges to be hand planed and prevents splitting of rails and stiles.

The machine is also supplied without the chamfering attachment, at a lower price.

Has feeding-in and feeding-out rolls. Spindles run on self-oiling steps.

Countershaft has T. & L. (self-oiling) pulleys 10" x 4"; speed, 900.

Floor space, 9' 8" x 2' 10". H. P., 1 to 3.

		Boxed for Export			
Fig.		Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1026	With Chamfering Attachment.	1,100	1,550	67	**Bygem**
1027	Without " "	1,000	1,450	67	**Bygernist**

WILLIAMSPORT MACHINE CO.'S

NEW STYLE PANEL RAISER.

The frame is one solid casting, making it very firm and rigid.

On this machine we use two patented cutters, which are perfectly solid and screw on the arbors, permitting of quick adjustment, and can be run at high speed. These make a shear cut and do very smooth work.

With the use of these heads small knives can be attached for cutting ogee and bevel panels without disturbing the main knives. Unless ordered otherwise, we furnish the machine with our special " S " shaped patented cutters.

Will raise a panel from ¼" to 3¾", on one or both sides, at one operation, without change of cutters, and will also raise a panel for ⅛" plow as successfully as for a ½".

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4"; speed, 850.

				Boxed for Export		
Fig.	Floor Space	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1028	4' x 6'	2 to 3	1,200	1,600	80	**Bygiftus**

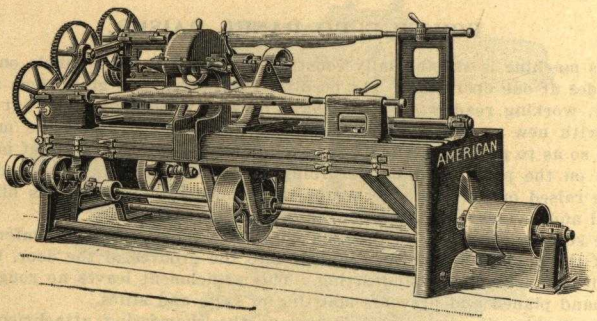


Fig. 1030 Hoyt Axle-Tree Lathe.

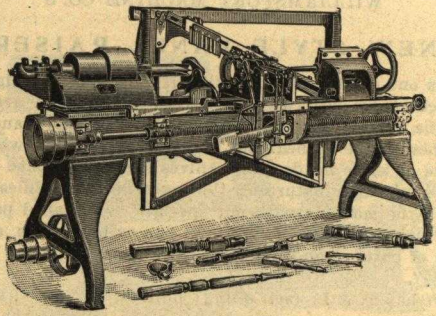


Fig. 1034 Clement No. 3 Back Knife Lathe.

HOYT & BRO. CO.'S

AXLE-TREE LATHE.

Adapted for turning axles, spokes, bolsters, rockers, sandboards, whiffletrees, etc. It will work up to 6′ 6″ long, any required size, from a pattern.

It turns from right to left and from left to right from a form or pattern made precisely as if for use, but the size of the article turned may be varied and can be either larger or smaller from the same pattern. It will turn a square corner, will cut a round groove—in fact, will follow almost any pattern excepting one having a square gain or shoulder.

It is simple in construction, and not liable to get out of order. To obtain good work all that is necessary is to have the pattern right and keep the knives sharpened.

We furnish with each machine two sets of knives and two pairs of centers (one for ordinary work and the other for small work), necessary wrenches and an endless belt to drive the cutter head.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 7″; speed, 500.

BELTING REQUIRED.

Two belts for feed, each 17′ long, 2″ wide.
One belt for feed, 7′ 11″ long, 3″ wide.
One belt for cutter head, 10′ 7″ long, 6″ wide.

			Boxed for Export			
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1030	4′ 6″ x 13′	3 to 8	3,900	4,900	200	Bygima

F. H. CLEMENT CO.'S

No. 3 AUTOMATIC BACK KNIFE LATHE.

Beds, head stock, foot stock, main arbor, centers, tail wheel and screw, feed nut and screw, knife slide and other details are the same in construction as in the No. 2 lathes, except that they are larger and stronger; head spindle is 2¼″ in diameter; cone pulley is 6½″ face and 7″ and 9″ in diameter. Centering arms swing in from rear; carriage carries four chisel stocks which are adjustable to the cut while running.

Capacity, 6″ to 50″ long, ¾″ to 5″ in diameter; leaves squares 3½″ x 3½″; turns from 500 to 2,000 pieces per ten hours.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 7¼″; speed, 850.

				Boxed for Export			
Fig.	Takes Length	Floor Space	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1034	40″	3′ 6″ x 9′	5 to 8	3,000	3,580	126	Byglid
1035	50″	3′ 6″ x 10′	5 to 8	3,400	3,900	141	Bygole
1036	Pattern or Back Knives						Bygonta

BACK KNIVES FOR AUTOMATIC LATHES.

We have all necessary facilities for the manufacture of back knives of standard angle or shear, having been engaged in this line for twenty years. We use only the finest edge tool steel and guarantee satisfaction.

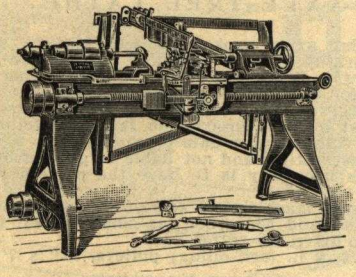


Fig. **1037** Clement No. 2 Back Knife Lathe.

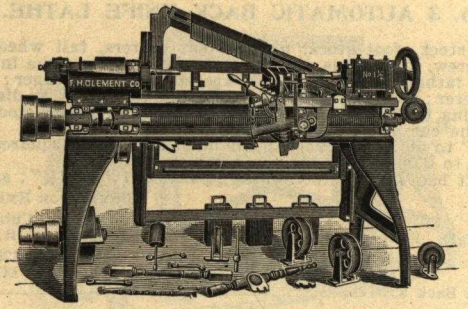


Fig. **1040** Clement No. 1½ Back Knife Lathe.

F. H. CLEMENT CO.'S

No. 2 AUTOMATIC BACK KNIFE LATHE

Adapted to chair, furniture, table, architectural and other stock turning; bed is heavy and well tied transversely; head spindle is cast steel, with ground journals and self-oiling boxes; foot stock spindle revolves in divided tapering boxes; carriage has three turning chisels and six self-centering dies or steady rings; back knife frame has long vertical slide bearings with take-up gib, and is counterbalanced at both ends; self-centering attachment swings in from the rear; feed screw, tail stock screw, centers, countershafts and back shaft are of hard steel; feed nut device shuts squarely into the thread; chisel stocks are adjustable to the cut while running.

Capacity, from 4" to 50" long, ¼" to 3" in diameter, and leaves squares 2⅜" x 2⅜"; from 500 to 2,500 pieces per ten hours can be turned.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 6¼"; speed, 1,000.

Fig.	Takes Length	Floor Space	H.P.	Weight, lbs.	Boxed for Export: weight, lbs.	Boxed for Export: Cubic ft.	Code
1037	40"	3' x 8'	4 to 6	2,350	2,850	110	Bygown
1038	50"	3' x 9'	4 to 6	2,550	3,100	115	Bygradis
1039	Pattern or Back Knives, per inch						Bygraft

F. H. CLEMENT CO.'S

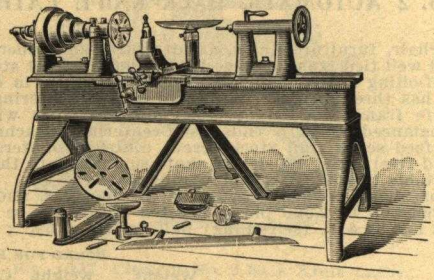
No. 1½ AUTOMATIC BACK KNIFE LATHE.

Adapted to chair, furniture and spindle work; bed is deep and strong and well tied transversely; head spindle is of cast steel, with ground journals and self-oiling boxes; carriage bears 20" on a V track, with take-up gibs; it may have three chisel stocks, but two are usually furnished; dies or steady collars are of steel and self-centering; back knife bar is attached directly to the carriage; centering attachment swings in from the rear; patent feed nut device is easy and sure in operation; cut-off chisel for head end is furnished. We can make the head stock or the foot stock to slide by motion of tail wheel, as ordered, at same price.

Capacity, from 3-16" to 2¾" in diameter for round stock, and up to 52" long; squares may be left 2" x 2" and any length; from 600 to 3,000 pieces per ten hours can be turned.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 6¼"; speed, 900.

Fig.	Takes Length	Floor Space	H.P.	Weight, lbs.	Boxed for Export: weight, lbs.	Boxed for Export: Cubic ft.	Code
1040	28"	2' 9" x 7'	3 to 5	1,900	2,300	93	Bygulcas
1041	36"	2' 9" x 7' 8"	3 to 5	2,100	2,500	101	Bygumbo
1042	45"	2' 9" x 8' 5"	3 to 5	2,300	2,750	111	Bygravote
1043	52"	2' 9" x 9'	3 to 5	2,500	3,100	120	Bygung
1044	Pattern or Back Knives, per inch						Bygustaf



1045 Clement Pattern Makers' Lathe.

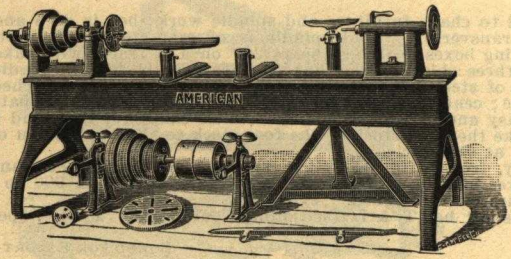


Fig. **1049** Clement Pattern Makers' Lathe.

F. H. CLEMENT CO.'S

PATTERN MAKERS' LATHE WITH SLIDE REST.

Adapted to all pattern shops for either hand or fixed tool turning; bed is 9" deep and well tied between webs; carriage has 20" of bearing on ways and take up gibs; feed rack is cut steel; gears in apron are cut; cross feed screw has a square thread; balance crank, handles and tail wheel are turned and polished. The head stock is swiveled and the tall stock sets over to turn taper work. The rest sockets, rests, face plates, cones, spindles and floor stands are the same as on our pattern lathes without beds; a compound rest is regularly furnished; standard beds are 8' (10', 12', 14' and 16' can be furnished at extra price); two pairs of T. & L. pulleys are supplied, for 20", 9" x 4¼"; for 24", 10" x 4¼"; speed, 400 to 750. H. P., 2 to 3.

Fig.	Swing	Floor Space	8' Bed Distance bet. Centers	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
1045	20"	2'6" x 8' up	4' 8½"	1,300	1,700	50 to 72	Byhalfic
1046	24"	2'6" x 8' up	4' 1½"	1,500	1,800	58 to 80	Byhampen
1048	Each additional 2' of Bed, extra						Byhantus

F. H. CLEMENT CO.'S

PATTERN MAKERS' LATHES ON IRON BEDS.

Head stocks, foot stocks, rest sockets, floor stands, countershafts and attachments are the same as on our pattern lathes without beds, the difference being in the clamping bolts and plates for attaching parts to the beds; 16" lathe is not made with iron bed; standard lengths of bed are 8' (10', 12', 14' and 16' can be furnished at extra price); width across top flanges, 12½"; spread of legs, 2' 6"; countershaft carries two pairs of T. & L. pulleys, giving eight speeds on spindle; T. & L. pulleys for 20", 9" x 4¼"; for 24", 10" x 4¼"; speed, 400 to 750. H. P., 2 to 3.

Fig.	Swing	Floor Space	8' Bed Distance bet. Centers	Boxed for Export Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
1049	20"	2'6" x 8' up	4' 8½"	1,200	1,600	50 to 72	Byharding
1050	24"	2'6" x 8' up	4' 1½"	1,400	1,700	56 to 80	Byhaven
1051	Each additional 2' of Bed, extra						Byhawkist

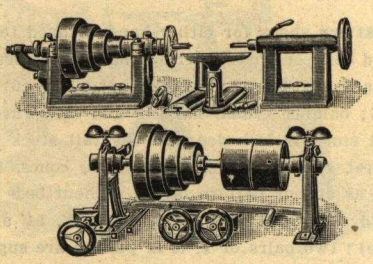


Fig. **1052** Clement Pattern Makers' Lathe.

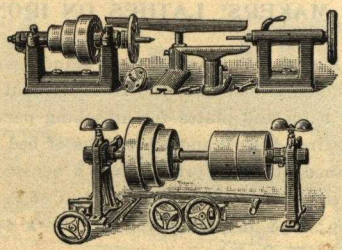


Fig. **1055** Clement Hand Lathe.

F. H. CLEMENT CO.'S

PATTERN MAKERS' LATHES.

Head and tail stocks are cored hollow and planed true on the bottom; spindles, centers and tail screw are of steel, and the lathe has square threads and the hand wheel is turned and polished; spindle caps are planed in; journals are ground and boxes scraped to them; head cone is of iron and can be reversed when ordered; counter cone is hard wood, kiln dried and glued up; end thrust yoke is transferable to either end of head stock and has bronze step and hardened steel thrust center; two wood centers, two face plates, two rest sockets, three rests, five clamp bolts, rosette center, countershaft, two pairs of T. & L. (self-oiling) pulleys and floor rest stand are furnished.

					Boxed for Export			
Fig.	Swing	H.P.	T. & L.	Speed	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1052	16″	1½	8″ x 3¾″	400 to 750	550	700	18	**Byhoden**
1053	20″	2	9″ x 4¼″	400 to 750	725	900	20	**Byhomis**
1054	24″	2½	10″ x 4¼″	400 to 750	850	1,050	24	**Byhutag**

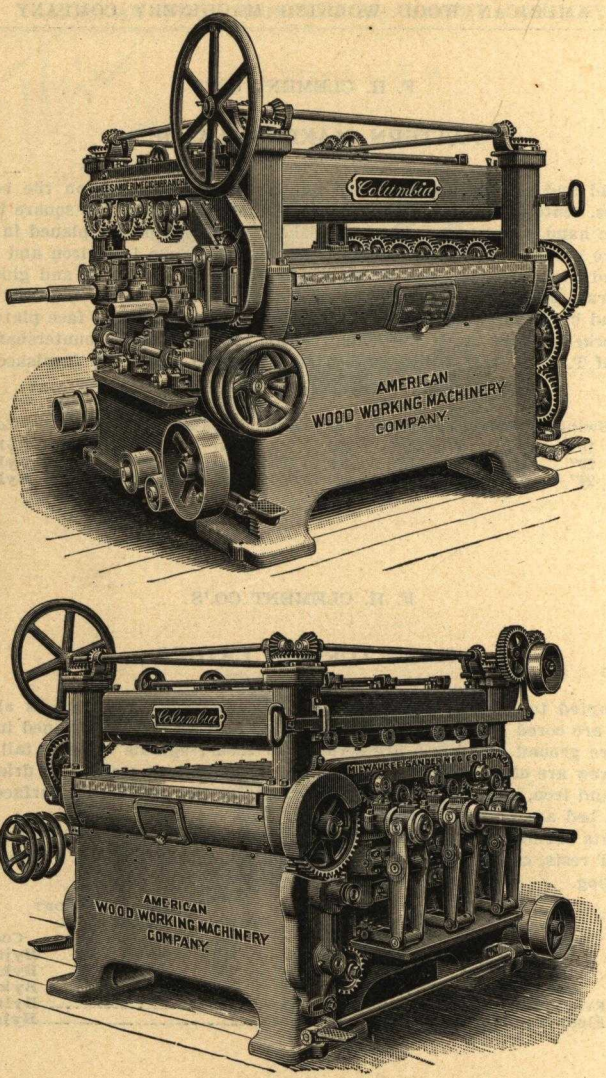
F. H. CLEMENT CO.'S

HAND TURNING LATHES.

Adapted to general turning in all kinds of shops; head stocks and tail stocks are cored hollow and therefore rigid; spindle caps are planed in, journals are ground and boxes are scraped to them; spindle centers, tail sleeve and screw are of steel, also countershaft. Cone pulleys are of kiln dried hard wood and iron, and are secured to the shafts at two points; all surfaces resting on bed are planed true.

Parts furnished are, one face plate, two wood centers, two rest sockets, three T rests, countershaft and clamp bolts for 10″ or 12″ bed. Loose pulley self-oiling.

					Boxed for Export			
Fig.	Swing	H.P.	T. & L.	Speed	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1055	12″	¾	7″ x 3¼″	700	280	400	14	**Byjovant**
1056	16″	1	8″ x 3¾″	700	420	550	16	**Bykonig**
1057	20″	1½	9″ x 4½″	700	550	700	19	**Bykuppa**
1062	Rear end Face Plate for any of the above Lathes							**Bylampic**
1063	Floor Stand for any of the above Lathes							**Bylandite**



Columbia Sanders.

MILWAUKEE SANDER MANUFACTURING CO.'S

COLUMBIA SANDERS.

THE COLUMBIA SANDER is built with three, two or one drums on the same general design, all working up to 6" thick. It is a perfectly modern tool in all of its essential parts, and suitable for every kind of work, from the heavy cuts required in a planing mill to the highest finish of the piano factory.

THE STRONG AND MASSIVE FRAME insures complete steadiness and rigidity, being braced by girts in the interior as well as at the ends, made especially strong where the side thrust of the oscillation requires resistance.

THE CYLINDERS are provided with a device for taking up the slack of the sandpaper automatically while the machine is running. To keep the sandpaper constantly snug around the drum is the first requisite for smooth sanding, and the automatic part of it obviates frequent stops. It is also of great economical value, as it preserves the life of the sandpaper and enables it to do much more work than if used in any other way. All cylinders are made as nearly mathematically true as is possible, and are balanced to the utmost perfection. They will produce a straight flat surface and leave no dips or round ends and edges.

The manner of fastening sandpaper is the very simplest, yet of great efficiency.

THE OSCILLATOR is next in importance to the cylinder, therefore every care has been taken to make it perfect. The end thrust is directly in the axis of the cylinder, thus avoiding all lifting or cramping in the journals. With the provision made for taking up the wear it is possible to remove any lost motion in its incipiency.

THE RAISING SCREWS, which are subject to quick wear, are provided with an arrangement for the taking up of the backlash resulting from such wear, automatically, and thus we prevent the rocking of the top feed works, which is a consequence of such wear and detrimental to good work.

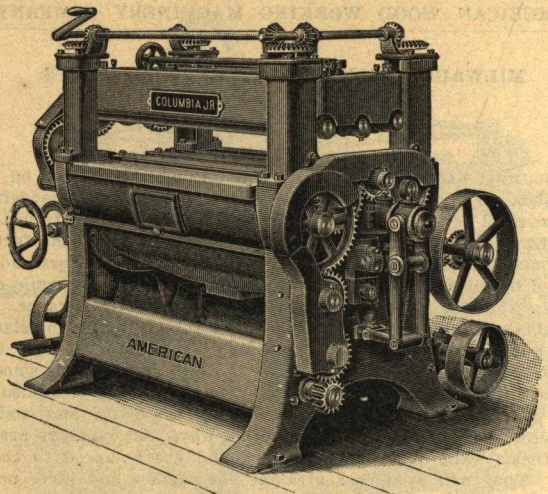
Changes in the feed speed are also a valuable feature, as they allow a rapid feed on coarser work as well as a slow feed when a high finish is the aim. The change from one feed to another is quickly made.

All three-drum sanders are provided with a power hoist for the upper feed works. This lightens the work of the operator and saves much time.

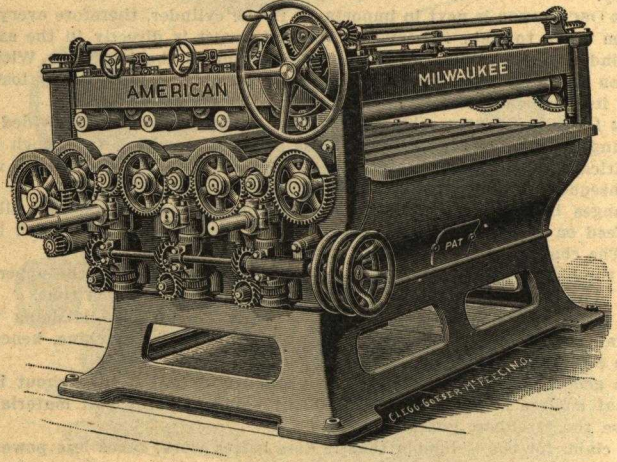
All adjustments are easily performed while the machine is doing work. All arrangements for same are located on outside of the machine, hence can be seen and kept clean.

The general mechanical construction and workmanship throughout is the best that modern skill can produce, and by using only the best materials we can give the strongest guarantee.

We claim for the Columbia that it does better work, takes less power and lasts longer than any other sander in the market.



Columbia Jr. One-Drum Sander.



Milwaukee Sander.

COLUMBIA SANDERS—Continued.

Fig.	Size	Floor Space	T. & L.	Sp.	H.P.	Boxed for Export W'ght, lbs.	W'ght, lbs.	Cub. ft.	Code
1070	30″, 3 Drum	5′ 2″ x 6′ 4″	12 x 8½	550	5	6,500	7,800	238	**Bylanfa**
1071	36″, 3 "	5′ 2″ x 6′10″	12 x 8½	550	7	7,000	8,400	253	**Bylantik**
1072	42″, 3 "	5′ 2″ x 7′ 4″	14 x 10½	550	9	7,600	9,200	268	**Bylapsi**
1073	48″, 3 "	5′ 2″ x 7′10″	14 x 10½	550	11	8,200	10,000	283	**Bylarrup**
1074	54″, 3 "	5′ 2″ x 8′ 4″	14 x 10½	550	13	8,800	10,800	299	**Bylarzy**
1075	60″, 3 "	5′ 2″ x 8′10″	16 x 12½	550	15	9,500	11,600	315	**Bylatin**
1076	66″, 3 "	5′ 2″ x 9′ 4″	16 x 12½	550	17	10,300	12,600	330	**Bylatoni**
1077	72″, 3 "	5′ 2″ x 9′10″	16 x 12½	550	19	11,000	13,400	345	**Bylatung**
1078	78″, 3 "	5′ 2″ x 10′ 4″	18 x 14½	550	21	11,700	14,200	360	**Bylatwack**
1079	84″, 3 "	5′ 2″ x 10′10″	18 x 14½	550	23	12,400	15,000	375	**Bylatzista**
1084	30″, 2 "	4′ x 5′11″	12 x 8½	550	3	5,800	7,000	168	**Bylegand**
1085	36″, 2 "	4′ x 6′ 5″	12 x 8½	550	4½	6,200	7,400	178	**Bylero**
1086	42″, 2 "	4′ x 6′11″	12 x 8½	550	6	6,600	7,900	188	**Bylevant**
1087	48″, 2 "	4′ x 7′ 5″	12 x 8½	550	7½	7,000	8,400	198	**Bylifang**
1088	30″, 1 "	2′10″ x 5′ 1″	12 x 8½	550	2½	3,600	4,800	103	**Bylinger**
1089	36″, 1 "	2′10″ x 5′ 7″	12 x 8½	550	3½	3,900	5,200	108	**Bylitus**
1090	42″, 1 "	2′10″ x 6′ 1″	12 x 8½	550	4½	4,200	5,600	113	**Bylocota**

MILWAUKEE SANDER.

Possesses all of the most important features of the Columbia. Its cylinders are made from the same class of material and with the same care as those of the latter, and they are likewise provided with the automatic paper tightener. Moreover, it has the same oscillator, the same method for the different adjustments and for taking up wear. The differences are that it is lighter in weight, has no power hoist, no brush, no instantaneous feed stop, and no change of feed speed.

At the same time it is an excellent tool for ordinary planing mills and furniture factories.

It is only made with three drums and in the following sizes:

Fig.	Size	Floor Space	T. & L.	Sp.	H.P.	Boxed for Export W'ght, lbs.	W'ght, lbs.	Cub. ft.	Code
1080	24″, 3 Drum	4′10″ x 5′8″	12 x 8½	600	4	5,200	6,100	197	**Bylavage**
1081	30″, 3 "	4′10″ x 6′2″	12 x 8½	600	6	5,600	6,650	216	**Bylawkum**
1082	36″, 3 "	4′10″ x 6′8″	12 x 8½	600	8	6,000	7,200	235	**Bylecute**
1083	42″, 3 "	4′10″ x 7′2″	14 x 10½	600	10	6,400	7,800	254	**Byledome**

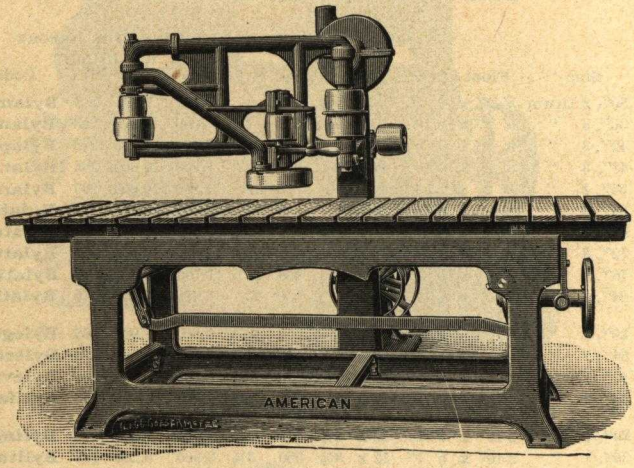


Fig. **1095** Nichols Sander.

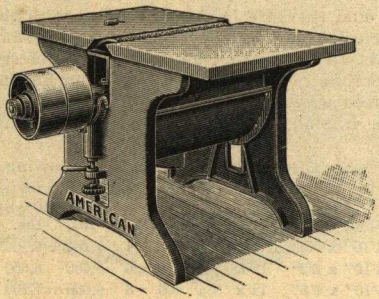


Fig. **1096** Clement Surface Sander.

ROWLEY & HERMANCE CO.'S

NICHOLS SAND-PAPERING MACHINE.

This machine is very useful in sash, door and blind factories, furniture factories, etc., for sandpapering any flat surface requiring a perfectly smooth finish, or where there is not sufficient work to warrant the expense of our power feed drum sander.

A heavy cored column having a broad base, which is securely fastened to the floor, supports the arm.

THE ARMS are 5' 6" from center of disk to face of column, and are as light as is consistent with the work required. They are carefully constructed and so fitted as to make the disk rest perfectly level on the table at all points. No adjustments are necessary on either the arms or head.

THE TABLE, which is separate from the column, has an iron frame and wood top 33" wide by 80" long, with a vertical adjustment of 3" by means of a screw operated by a hand wheel, thus permitting the finest adjustment and avoiding the vibration natural to machines of this class where table and arm support are connected.

THE SUCTION FAN draws the dust from the work through the hollow arms to the outlet, from where it can be carried off by the usual pipe connections.

THE COUNTERSHAFT attached to the column has T. & L. (self-oiling) pulleys, 10" x 5"; speed, 600.

				Boxed for Export		
Fig.	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1095	7' x 6'	1 to 2	1,250	1,700	85	Bylotare

F. H. CLEMENT CO.'S

SURFACE SANDING MACHINE.

Adapted to any straight surface work 6" long and upward; frame is tied by a heavy semi-cylindrical shell inclosing the drum; top flanges are planed true and tables clamped to them; drum is built upon iron centers with kiln dried lags bolted through and covered with carpet; arbor is steel, 1¾" in diameter, and boxes are adjustable vertically and are self-adjusting to position of shaft; spaces around drum are covered and suction fan may be attached to bottom of shell; for curved work tables and side partitions can be removed, exposing one-half of the drum. The sandpaper is held in position by two longitudinal bars in recesses with clamp screws.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4¼"; speed, 800.

					Boxed for Export		
Fig.	Width	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1096	30"	4'10" x 4'6"	1	1,000	1,250	57	Byluma
1097	24"	4'4" x 4'6"	1	900	1,150	54	Bylunbach

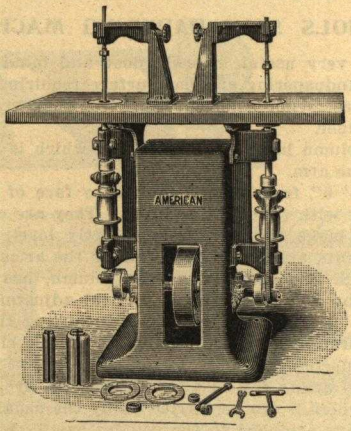


Fig. 1098 Clement No. 3 Double Spindle Sander.

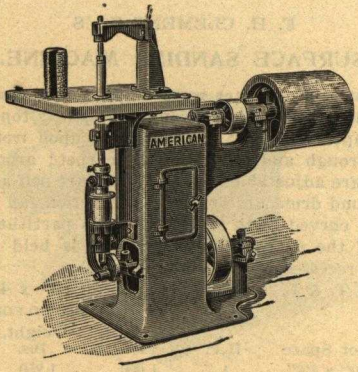


Fig. 1100 Clement Spindle and Drum Sander.

F. H. CLEMENT CO.'S

No. 3 DOUBLE SPINDLE SANDER.

Adapted to irregular edges; frame is cast in one piece; spindles are of hard steel in two sections, lower one 1⅛" in diameter and upper one ⅝", to receive the sand rolls; rolls are of kiln dried hard wood hinged in halves and clamped by conical rings; vibration vertically about 2", rolls are 7½" face and 1½" to 4" in diameter; smaller rolls furnished when ordered; table is iron or wood as ordered, 24" x 48", with detachable rings around spindles; spindles, crank shaft and countershaft are steel; one 1½" and one 3" sand rolls are provided; ordinary sheet sandpaper is used.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 4¼"; speed, 700.

				Boxed for Export			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1098	With Iron Table	4' x 6'	1	825	1,300	39	**Bylustro**
1099	With Wood "	4' x 6'	1	725	1,200	39	**Bymarco**

F. H. CLEMENT CO.'S

SPINDLE SANDER WITH DRUM.

Adapted to plain or irregular curved work; frame is in box form with tool closet; main spindle is hard steel made in two sections, one 1⅛" in diameter, carrying pulley and vibrator sleeve, and one ⅝" in diameter, carrying the detachable sandpaper roll; overhead steady bearing may or may not be used; vertical motion is about 2" and rolls are 7½" long and from 1½" to 4" in diameter; smaller rolls to special order; drum has iron centers and kiln dried lags, is 13" x 16", and covered with carpet; all spindles, crank shaft and countershaft are of steel and two sand rolls 1½" and 3", with clamping collars, are furnished; table is iron or wood as rdered, 24" x 24"; ordinary sheet sandpaper is used.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 4¼"; speed, 700.

				Boxed for Export			
Fig.		Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1100	With Iron Table	5' x 6'	1	800	1,050	26	**Bymarding**
1101	With Wood "	5' x 6'	1	700	950	26	**Bymavis**

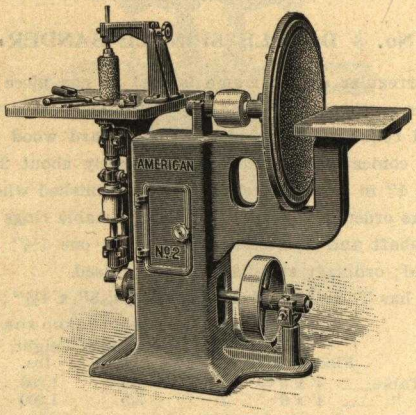


Fig. **1104** Clement No. 2 Universal Sander.

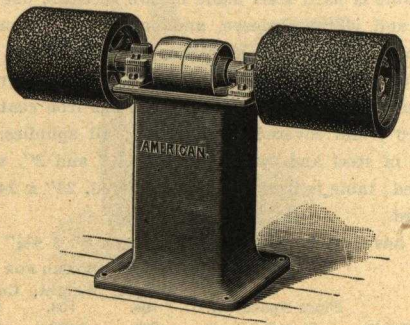


Fig. **1107** Clement Drum Sander.

F. H. CLEMENT CO.'S

UNIVERSAL SANDER.

Two forms of this machine are made. No. 1 with single upright spindle and one roll; No. 2, as in the engraving, with one disk, one roll spindle and two rolls of different sizes.

Adapted to irregular edges as well as flat surfaces; frame is cast in box form, with tool closet; main spindle is in two sections, one 1⅛" in diameter, carrying pulley and vibrator sleeve, the upper one ⅝" in diameter, carrying the sand roll; overhead steady bearing may or may not be used; vertical motion is about 2" and the rolls are 7½" long and from 1½" to 4" in diameter; smaller rolls to special order; disk is glued up "three thick" of kiln dried stock, 27" in diameter, with clamping ring on outside; all spindles, crank shaft and countershaft are steel; tables are of iron or wood as ordered, with changeable rings in main table; two rolls, 1½" and 3" diameter, regularly furnished.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 4¼"; speed, 700.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1102	No. 1, Iron Table	4'8" x 6'	1	725	1,000	24	**Bymelba**
1103	No. 1, Wood "	4'8" x 6'	1	625	900	24	**Bymeneal**
1104	No. 2, Iron Tables	4'8" x 6'	1	900	1,200	40	**Bymetuch**
1105	No. 2, Wood "	4'8" x 6'	1	750	1,050	40	**Bymobile**

F. H. CLEMENT CO.'S

NEW DRUM SANDER.

Adapted to flat, curved or bent work; frame is cast in one piece with boxes bolted on; shaft is steel, 1¾" in diameter; drums are 16" in diameter, 24" face, and 13" in diameter, 16" face, as ordered, built up on iron centers, of kiln dried wood, each lag being bolted through; covered with carpeting; when 16" x 24" drums are wanted outside bearings are furnished.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 4½"; speed, 1,000.

Fig.	Size Drums	Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1106	16" x 24"	2' x 7'	1	600	800	50	**Bymony**
1107	13" x 16"	2' x 4'9"	1	450	650	34	**Bymusso**

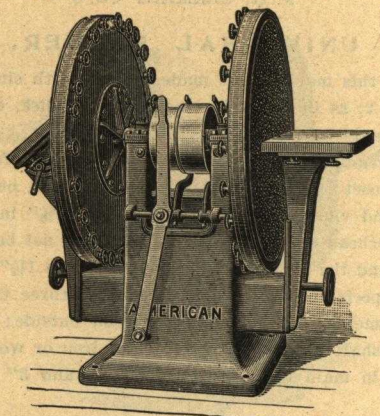


Fig. **1108** Clement No. 2 Double Disk Sander.

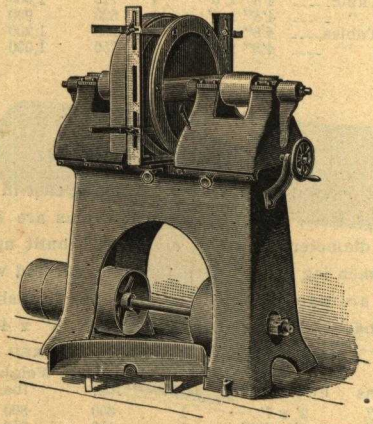


Fig. **1113** Houston Disk Sander.

F. H. CLEMENT CO.'S

NEW DOUBLE DISK SANDER,

Adapted to surface finishing on a great variety of work; frame is massive, with broad base, and cast in one piece; arbor is of hard steel, 2" in diameter, with ground journals and self-oiling boxes; disks are glued up "three thick," of kiln dried stock and bolted to the center plates through and through; wrought clamping rings lie in a "rabbet" at outer edge of disks and are worked by finger wheels on studs; tables are adjustable vertically several inches and one tilts to 45 degrees; they are of hard wood usually; materials and workmanship are first-class; disks are 3" thick and may be 30", 36", 42" or 48" in diameter.

Countershaft has T. & L. (self-oiling) pulleys, 12" x 4½"; speed, 450.

Fig.		Floor Space	H. P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1108	No. 2, two 48" Disks, one Tilting Table.	4' x 5' 8"	2	1,200	1,500	56	**Bynometer**
1109	No. 2, two 42" Disks, one Tilting Table.	4' x 5' 8"	2	1,200	1,500	56	**Bynorgant**
1110	No. 2, two 36" Disks, one Tilting Table.	4' x 5' 8"	2	1,200	1,500	56	**Bynovita**
1111	Disk and Drum Sander, 36" Disk, 24" x 16" Drum, 3 Bearings	4' x 5' 8"	2	800	1,100	45	**Byotuga**
1112	Disk and Drum Sander, 30" Disk, 16" x 13" Drum	4' x 5' 8"	2	800	1,100	45	**Byovancy**

THE LEVI HOUSTON CO.'S

DOUBLE DISK SANDER.

Designed specially for sandpapering one or both sides of door panels, blinds, outside and inside shutters, mantels, window jambs, drawer fronts, cupboard doors, etc., at a single operation. It has two vertical disks running opposite to each other, both of which have a lateral motion, governed by springs to adjust to the irregularities of work. Will work 13" and 21" wide. It will sandpaper on both sides panels for 500 doors in one day, or 200 pairs of blinds in ten hours.

Countershaft for 21" Sander has T. & L. (self-oiling) pulleys, 10" x 5"; speed, 600.

Countershaft for 13" Sander has T. & L. (self-oiling) pulleys, 10" x 4"; speed, 900.

Fig.		Floor Space	H.P.	Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1113	21" Sander	5' 3" x 4'	3 to 5	900	1,350	71	**Byozing**
1114	13" "	4' 8" x 2' 9"	2 to 3	600	950	36	**Bypast**

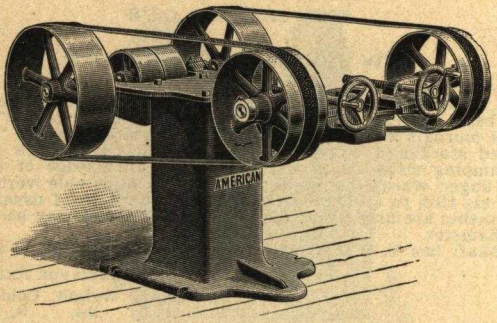


Fig. **1115** Clement Double Sand Belt Machine.

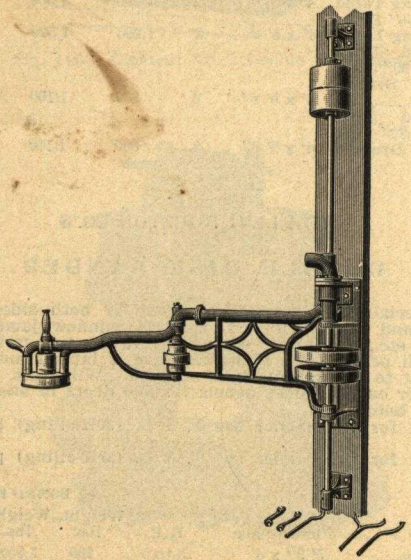


Fig. **1117** Rowley & Hermance No. 1 Hollow Arm Sander.

F. H. CLEMENT CO.'S

IMPROVED DOUBLE SAND BELT MACHINE.

Adapted to round, oval and irregular work; frame is cored hollow, with boxes for shafts securely bolted to top; main shaft is hard steel, 1¾" in diameter; straining slides are independent with take-up gibs; pulleys are 20" and 14" in diameter and ordinarily 6" face, and require belts 11' long; machine is made for either one or two belts, but belts are not furnished.

Countershaft has T. & L. (self-oiling) pulleys, 10" x 4½"; speed, 900.

				Boxed for Export			
Fig.	Size	Floor Space	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1115	Double.	3' 4" x 5'3"	1	650	900	38	**Byphatic**
1116	Single.	2'10" x 5'3"	1	550	800	30	**Bypherbole**

ROWLEY & HERMANCE CO.'S

IMPROVED HOLLOW-ARM POST SAND-PAPERING MACHINE.

Built in two sizes for sandpapering doors, sash, blinds, furniture, coffins and all plain surfaces. It is constructed on the principle of our Nichols patent sandpapering machine, Fig. 1095, and arranged to be connected with a fan which is supplied as an extra. By attaching tin pipes with the exhaust fan and the hollow arms, which are cored throughout, the dust can be drawn through the arms from the disk and carried away from the building, keeping the surface of the work and the shop free from dust. We call special attention to the center pulley, from which the disk is driven. An examination of this pulley will show that it is a double pulley and driven by two belts from the countershaft, which give an equal strain on the pulley and much more power than if it were simply a single belted pulley. The driving shaft is 8' long (or can be made longer if desired) and can be driven from above or below the frame.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 4"; speed, 650.

			Boxed for Export			
Fig.		H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1117	No. 1, with Arms, 4' 8" long.	1	375	475	24	**Byphen**
1118	No. 2, with Arms, 7'11" "	1	450	575	30	**Bypholite**
1119	Special Exhaust Fan for either machine, extra					**Byquest**

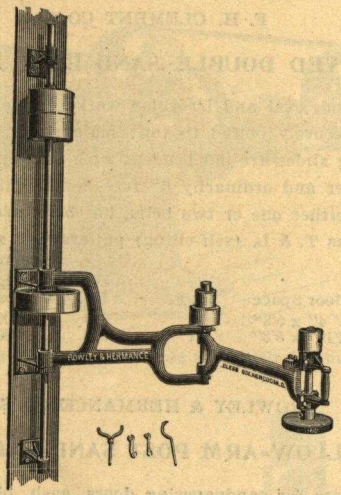


Fig. 1120 Rowley & Hermance Post Sander.

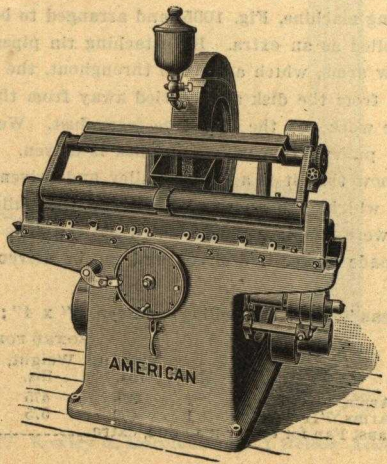


Fig. 1130 No. 200 Glen Cove Automatic Knife Grinder.

ROWLEY & HERMANCE CO.'S

POST SAND-PAPERING MACHINE.

This machine is intended for sandpapering doors, sash, blinds, furniture, coffins and all plain surfaces, and is very rigid. It has no suction fan or table, but is made to meet the requirements of those who do not care to have a more expensive machine When desired a pin boring attachment is supplied at extra cost. Distance from center of vertical shaft to center of disk, 5′ 5″.

Countershaft has T. & L. (self-oiling) pulleys, 8″ x 4″; speed, 650.

			Boxed for Export			
Fig.		H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1120	Without Pin Borer	1	375	475	24	Byraptus
1121	With Pin Borer	1	400	500	24	Byregina

GLEN COVE MACHINE CO.'S

No. 200 AUTOMATIC KNIFE GRINDER.

A transverse reciprocating movement of the knife bar regulated in extent from 2″ to full length of machine. Movement of the wheel toward the work can be regulated to grind from 1-3000″ to 1-200″ to each back and forth movement of the knife bar frame. Will cease grinding at any point for which it may be set. Thus there is no danger that cutters will be overground through inadvertence or inattention of the operator. Supplied with hood and water tank, adapting machine to wet or dry grinding. We furnish one emery wheel, 26″ x 1½″.

Countershaft has T. & L. (self-oiling) pulleys, 12″ x 3″; speed, 300.

BELTING REQUIRED.

One belt, 7′ 5½″ long by 4″ wide, single belting. One belt, 8′ 8½″ long by 1″ wide, double belting.

				Boxed for Export			
Fig.	Size	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1130	30″	5′ x 4′	1½	1,300	1,800	100	Byrelate
1131	36″	5′6″ x 4′	1½	1,300	1,800	100	Byrelunca
1132	42″	6′ x 4′	1½	1,300	1,800	100	Byrestum
1133	50″	6′8″ x 4′	1½	1,300	1,800	100	Byrevelt

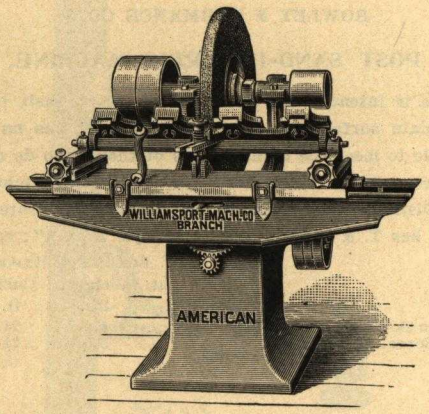


Fig. 1134 Williamsport Automatic Knife Grinder.

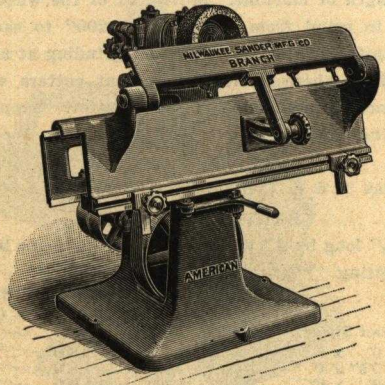


Fig. 1137 Cup Wheel Knife Grinder.

WILLIAMSPORT MACHINE CO.'S

AUTOMATIC KNIFE GRINDER.

A strong, substantial machine. After the work is placed on the machine and adjustments regulated it requires little or no attention. The holding bar to which the knife is bolted is now slotted to receive bolts instead of having clamps, as shown in the engraving. It is so constructed that the heat made in grinding the knife will not spring it; thus the knife is ground perfectly true and no hollow in the center. Water can be used on the wheel if so desired, and the hood and tank will be supplied at extra cost. It is built in three sizes, as shown by the schedule. We furnish one 22″ x 1½″ emery wheel.

Countershaft has T. & L. (self-oiling) pulleys, 10″ x 3″; speed, 350.

				Boxed for Export			
Fig.	Size	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1134	32″	4′ 3″ x 3′	1½	700	900	50	**Byrexos**
1135	36″	4′ 3″ x 3′	1½	700	900	50	**Byrica**
1136	50″	5′ 6″ x 3′	1½	700	900	50	**Byrillus**

MILWAUKEE SANDER MANUFACTURING CO.'S

AUTOMATIC CUP WHEEL KNIFE GRINDER.

The machine is very heavy and compact. It is built in two sizes, to work 28″ and 32″ long.

The Pedestal Frame is cast in one piece, with broad foot flanges which allow it to rest firmly on the floor, thus avoiding vibration.

The Carriage holding the knife has an automatic reciprocating movement, and carries a knife-clamp, which can be set to any desired level.

The Arbor carrying the wheel runs in a swivel bearing, which can be set at any angle to produce a slightly concave edge if desired.

The Wheel is fed to the knife automatically by a steel spring.

The Cut can be gauged by a hand wheel found at the rear of the machine directly under the arbor, and when once set no further attention is necessary, as the wheel will cease grinding when the stop limit is reached.

One wheel, 8″ in diameter by 5½″ face, is furnished with each machine.

The countershaft has T. & L. pulleys, 10″ x 4″; speed, 325.

				Boxed for Export			
Fig.	Size	Floor Space	H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1137	28′	4′ 4″ x 4′	½	775	950	80	**Byrocaby**
1138	32′	4′ 4″ x 4′ 6″	½	825	1,000	90	**Byromatic**

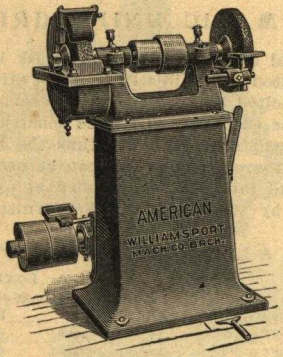


Fig. **1139** Williamsport Column Grinder.

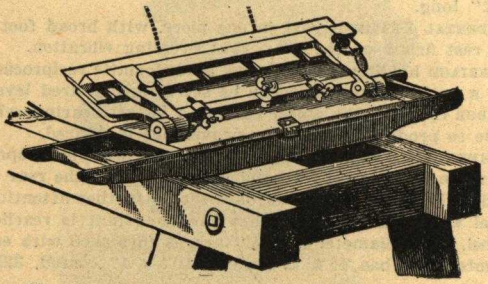


Fig. **1140** Rowley & Hermance Common Knife Grinder.

WILLIAMSPORT MACHINE CO.'S

COLUMN EMERY GRINDER.

The machine is regularly built as shown in the cut, arranged with wet grinder on one side and dry on the other, but it can be made with both sides for wet grinding or both sides for dry grinding, as desired.

There are two changes of speed, and the top arbor is belted direct from the countershaft, which is a part of the main machine. It is also provided with belt shifting arrangement attached to main column.

With each machine we furnish one emery wheel 12" in diameter, 2" face, and one emery wheel 12" in diameter, 1" face.

Countershaft has T. & L. (self-oiling) pulleys, 8" x 4"; speed, 650.

				Boxed for Export		
Fig.	Floor Space	H. P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1139	30" x 36"	2	500	615	35	**Byronic**

ROWLEY & HERMANCE CO.'S

COMMON KNIFE GRINDING MACHINE.

Can be attached to any grindstone frame. The knife to be ground is set between the jaws of the clamp and fastened by hand wheels. Any desired bevel can be obtained by the adjusting screw. The carriage slides across the face of the stone, and grinds the knife perfectly straight. All screws are made of brass to avoid rust. Made to grind knives of various lengths as per schedule.

			Boxed for Export		
Fig.	Size	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1140	24"	100	150	10	**Byronza**
1141	30"	115	165	10	**Byrundo**

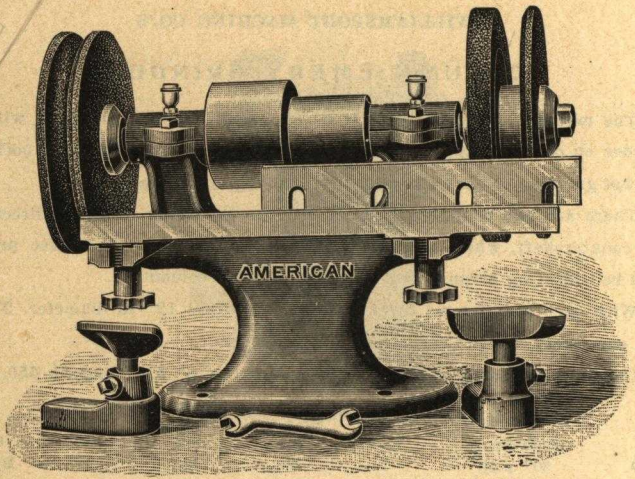


Fig. 1143 Rowley & Hermance No. 1 Double End Grinder.

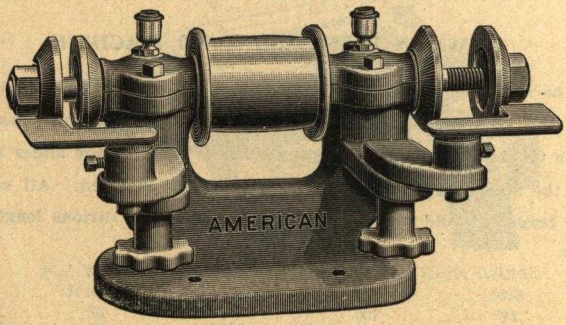


Fig. 1145 Rowley & Hermance No. 2 Double Grinder.

ROWLEY & HERMANCE CO.'S

No. 1 DOUBLE END EMERY GRINDER.

A heavy, substantial machine, arranged to carry five wheels with knife grinding attachment, and with gumming attachment for small circular saws when so ordered.

THE ARBOR is of steel, running in long boxes. It is fitted with a cone pulley, thus giving two changes of speed. One end is so arranged as to carry four 12" wheels, varying in thickness, and the other end one 12" wheel, all having a ⅞" hole. The pulleys on arbor are 4" and 6" in diameter. No wheels are furnished, unless ordered at an extra cost. Countershaft is furnished, if desired, at extra cost. T. & L. (self-oiling) pulleys, 8" x 4"; speed, 750. H. P., 1.

Fig.		Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
1142	With Counter	242	292	15	Bysavo
1143	Without Counter	135	185	10	Bystaff
11431	Saw Gumming Attachment, extra				Bystafust

ROWLEY & HERMANCE CO.'S

No. 2 DOUBLE EMERY GRINDER.

The arbor is steel mounted in long boxes. Suitable for wheels 12" in diameter with ⅞" hole. No wheels furnished.

Countershaft furnished if desired, at extra cost, with T. & L. (self-oiling) pulleys, 8" x 3"; speed, 400. Pulley on arbor, 4" in diameter. H. P., 1. Wheels extra.

Fig.		Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
1144	With Counter	120	160	15	Bystagic
1145	Without Counter	80	120	10	Bystalker

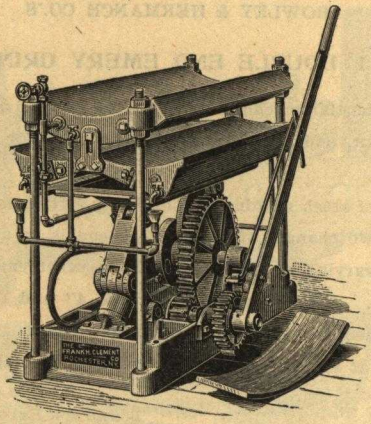


Fig. 1150 Clement Bending Press.

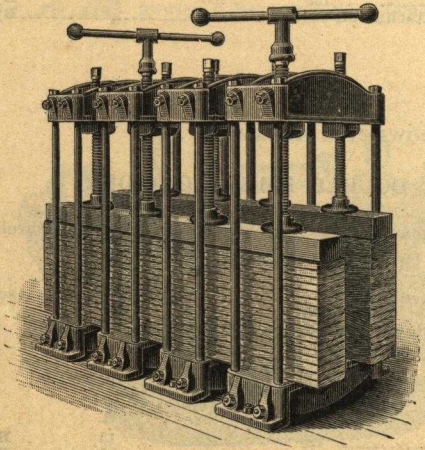


Fig. 1155 American Veneer Press.

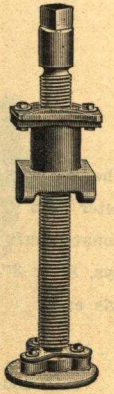


Fig. 1159

F. H. CLEMENT CO.'S

PATENT CHAIR BACK BENDING PRESS.

Adapted to heavy and medium bending in valuable woods; upper hot chamber is in one piece and lower one is jointed in middle of its width to fold against the stock; a brass plate with ledges for end pressure receives the stock; upper chamber is adjustable from ¼" to 1½" thick and is 50" long and usually takes 24" backs; power is got from double toggle joints and a hand lever which are good for 40 tons total pressure; reverse motion is practically instantaneous; curve of chambers can be 18" to 24" radius—*i.e.*, 36" to 48" curve; one brass plate is furnished, and piping attachment for live steam.

Fig.	Floor Space	Weight, lbs.	Boxed for Export Weight, lbs.	Boxed for Export Cubic ft.	Code
1150	2' 6" x 5'	2,700	3,100	71	**Bystamen**
1151	Brass Plate with Ledges, extra				**Bystend**

AMERICAN

VENEER PRESSES.

We manufacture five sizes of veneer presses, as shown in schedule. All weak points and objections in the old style wood frame presses have been overcome and many new features added. The top and bottom castings are planed true on each face and bearings at bottom. To insure great strength large steel rods are fitted in grooves over the arch-shaped parts and drawn firmly to place, with nuts at each end.

Screws are made of steel, 2" in diameter, 24" long, having square chased-threads, cut on a lathe. They are milled 1½" square at the top to receive socket wrenches. The nuts are 5" long, tapped out of solid castings, and are adjustable across the frame to any position desired. Two or more screws can be used in a single press according to requirements. The presses when used in gangs are generally placed 6" apart. Length and width of base, as per schedule below, are between uprights. Maximum distance from screw plate to base on Figs. 1155, 1156, 1157 and 1160, 30"; on Fig. 1158, 18".

Fig.	Length	Width	Scr.	Floor Space	Boxed for Export Weight, lbs.	Boxed for Export Weight, Cubic ft.	Code
1155	32"	12"	2	3'6" x 12"	520	720	24	**Bystepping**
1156	38"	12"	3	4'2" x 12"	570	770	30	**Bysteva**
1157	8' 6"	14"	8	9'2" x 17"	2,800	3,000	80	**Bystidulus**
1158	23"	20"	6	3' x 20"	1,140	1,350	24	**Bystobult**
1160	50"	13"	4	5' x 13"	1,100	1,400	46	**Bystofin**
1159	Extra Screw, Nut and Washer, complete							**Bystoke**

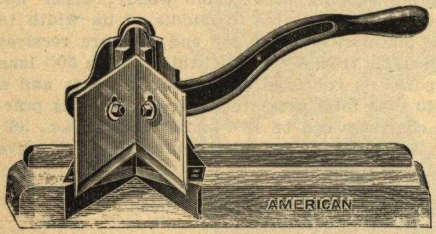


Fig. **1170** Rowley & Hermance Hand Mitre.

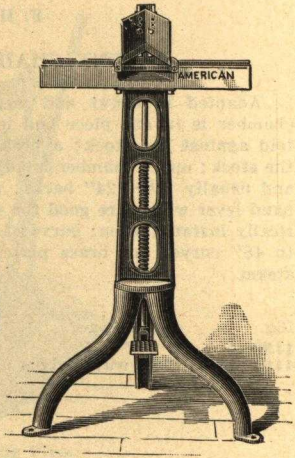


Fig. **1172** Rowley & Hermance Common Foot Mitre.

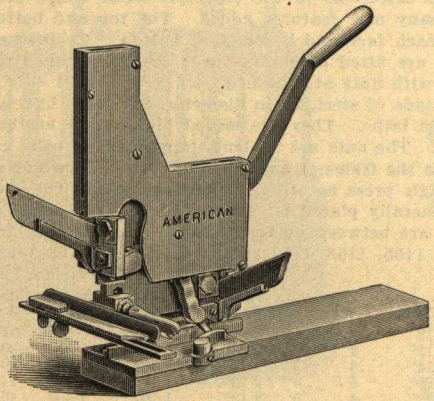


Fig. **1180** Rowley & Hermance Double Blind Wirer.

ROWLEY & HERMANCE CO.'S

MITRE MACHINES.

These hand and foot mitres are very carefully fitted and cut absolutely accurate. They are strong and substantial. The large foot mitre has an attachment to support the rabbet, which prevents the knife from splintering the work.

Fig.		Boxed Weight, lbs.	Cubic ft.	Code
1170	2½" Hand Mitre	30	2	**Bystolade**
1171	3" Hand Mitre	45	2	**Bystulting**
1172	2¼" Common Foot Mitre	120	6	**Bytadulum**
1173	3" Common Foot Mitre	140	6	**Bytagump**
1174	4" Common Foot Mitre	170	6	**Bytamilus**
1175	2¼" Large Foot Mitre, including Rabbeting Attachment	130	6	**Bytanglish**
1176	3" Large Foot Mitre, including Rabbeting Attachment	160	6	**Bytasot**
1177	4" Large Foot Mitre, including Rabbeting Attachment	190	6	**Bytavoco**

ROWLEY & HERMANCE CO.'S

DOUBLE AND SINGLE BLIND WIRERS.

Very carefully constructed and work with accuracy and precision. The staple cut-off is so arranged that two staples cannot get under the driver at the same time. The double machine wires the slat and rod at the same time. The slat is placed on the upper bed and wired by the upward motion of the lever; the slat is then placed on the lower bed and the downward motion of the lever staples the slat and the rod.

Fig.		Boxed Weight lbs.	Cubic ft.	Code
1180	Double Blind Wirer	45	2	**Bytubated**
1181	Single Blind Wirer	30	2	**Bytudinal**

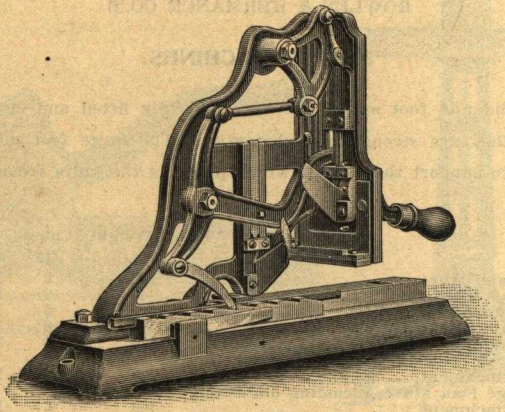


Fig. 1182 Hoyt Double Blind Wirer.

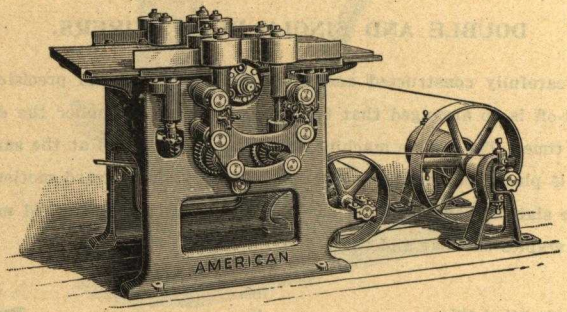


Fig. 1187 Milwaukee Sander Co.'s Power-Feed Box Matcher.

HOYT & BRO. CO.'S

DOUBLE BLIND WIRING MACHINE.

The rod is put to place on the table. The slat is held by hand under the upper or end driver. The upward stroke of the handle draws the rod forward and drives the staple into the slat. The slat is immediately changed to place on the rod, and the downward stroke of the handle drives the staple into the rod, making connection between the rod and slat at one full stroke of the handle. Drives the wire straight, or at angles with the slat. The drivers are large and strong, and are held firmly against the face plates by steel followers and elliptic springs, which entirely prevent the dropping of stables. All wearing parts case-hardened.

Fig.		Boxed weight.	Cubic ft.	Code
1182	Double Blind Wirer	45	2	**Bytumacho**

MILWAUKEE SANDER MANUFACTURING CO.'S

POWER-FEED BOX BOARD MATCHER.

This machine is especially designed for heavy work, careful attention being paid to strengthen every part on which there would be any strain, and at the same time making the movable parts easily adjustable.

The frame is unusually heavy, well braced and strongly bolted.

It will work from 9" long up to any length, and from ⅜" to 2" thick.

The rolls are 6" in diameter, 3½" high and 9" between centers. They hold the work close to the table while passing over the heads, thus insuring full depth of tongue and groove.

Instantaneous feed stop is supplied.

HEADS CAN BE TAKEN OFF AND PUT ON THE ARBOR WITHOUT DISTURBING ANY OF THE OTHER PARTS. Both heads are on one arbor to enable the operator to match two boards at the same time.

Has two rates of feed, 90' and 120' per minute.

We furnish regularly with this machine one set of heads with straight grooving saws and tonguing collars for ⅜", ⅝" and ⅞" stock, or one set of six bit Shimer expansion heads, or one set (cutting one size) of Huther dado heads, at the option of the purchaser.

Countershaft is also furnished, with tight and loose pulleys 10" x 4½"; speed, 800.

Floor space, 4' 2" x 8'. H. P., 2 to 3. Weight, 1,800 lbs. Weight boxed, 2,100 lbs. Cubic feet, 45.

Fig.		Code
1186	With Head and Saws to work ⅜", ⅝" and ⅞"	**Bytunis**
1187	With one set Six Bit Shimer Expansion Head	**Byturnado**

Huther Dado Heads can be furnished at an extra cost, when wanted to work more than one size.

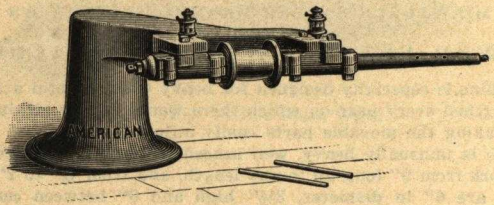


Fig. 1220 Clement Bench Carver.

F. H. CLEMENT CO.'S

BENCH CARVING MACHINE.

THE FRAME is cast in one piece, together with the arms supporting the boxes. It is arranged to be secured to a bench or table at a proper height to accommodate the operator.

THE BOXES are of hard bronze, made in halves, strongly doweled together and rigidly bolted to the frame, with a retaining tongue and groove to preserve alignment.

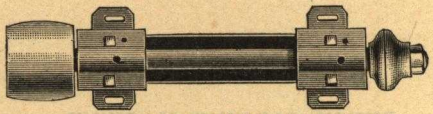
THE SPINDLE is of crucible steel, 1 5-16" diameter, very carefully ground and lapped, and the boxes are scraped to the journals so that the spindles can be started off at 8,000 r. p. m. without heating. The end motion is taken up by two spanner nuts on the end of the spindle, affording a very fine adjustment against a single box.

THE SPINDLE is usually made in two sections, the extreme end of the outer section having a threaded shank 5-16" diameter, 24 threads, to receive cutters. This shank and section can be made any size to order.

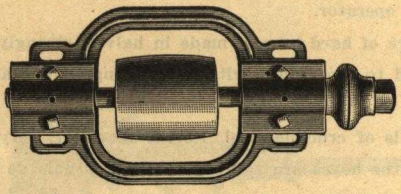
THE EXTREME overhang of the cutter from the frame is 29", and cutters of all ordinary sizes may be used; any form furnished on order.

COUNTERSHAFT has T. & L. (self-oiling) pulleys, 7" x 3¼"; speed, 1,000 to 1,250, giving the spindle 6,000 to 7,500.

			BOXED FOR EXPORT			
Fig.		H.P.	Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1220	Bench Carver complete, without Cutters	1 to 2	250	350	14	**Byvain**

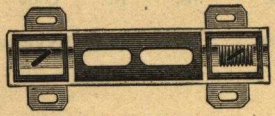


Straight Arbor.

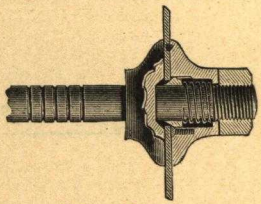


Yoke Arbor.

Naked Arbor.



Lining of Boxes.



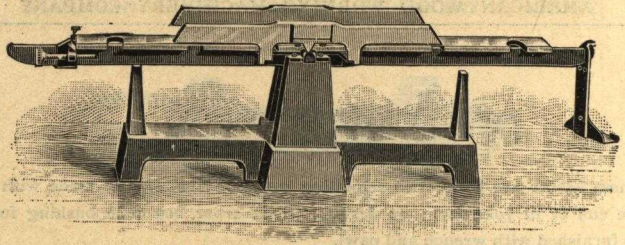
Cone Bushing.

SAW ARBORS.

These arbors are fitted with self-oiling connected boxes, and made with pulley on the end or in yoke form, as desired. Each arbor has cone bushing for saws and is furnished with wrench and pawl.

Fig.	No.	Style	Pulley Diam. Face	Length of Bed	For Saws	Hole for Saws	Weight, lbs.	Code
1500	0	Straight	3″ x 4″	15″	5″ to 10″	¾″ to 1″	40	**Sabat**
1501	0	Yoke	3″ x 4″	15″	5″ to 10″	¾″ to 1″	40	**Saco**
1502	1	Straight	4″ x 5″	18″	6″ to 12″	⅞″ to 1¼″	50	**Sadopa**
1503	1	Yoke	4″ x 5″	18″	6″ to 12″	⅞″ to 1¼″	50	**Safinga**
1504	2	Straight	4½″ x 5″	19″	12″ to 16″	1″ to 1½″	60	**Sahlin**
1505	2	Yoke	4½″ x 5″	19″	12″ to 16″	1″ to 1½″	60	**Saitic**
1506	3	Straight	5″ x 6″	20″	16″ to 20″	1⅛″ to 1⅝″	70	**Sajurna**
1507	3	Yoke	5″ x 6″	20″	16″ to 20″	1⅛″ to 1⅝″	70	**Sakala**
1508	4	Straight	5½″ x 6″	22″	20″ to 24″	1¼″ to 1¾″	80	**Salicon**
1509	4	Yoke	5½″ x 6″	22″	20″ to 24″	1¼″ to 1¾″	80	**Saminta**
1510	5	Straight	6″ x 7″	24″	24″ to 30″	1⅜″ to 2″	90	**Sanker**
1511	5	Yoke	6″ x 7″	24″	24″ to 30″	1⅜″ to 2″	90	**Saphite**
1512	6	Straight	8″ x 8″	24″	30″ to 36″	1½″ to 2¼″	100	**Saquin**
1513	6	Yoke	8″ x 8″	24″	30″ to 36″	1½″ to 2¼″	100	**Sardis**

No. 1



No. 2

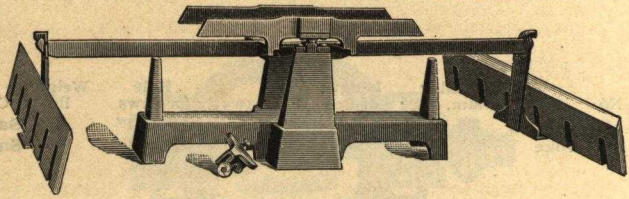


Fig. 1530 Hoyt Knife Balance.

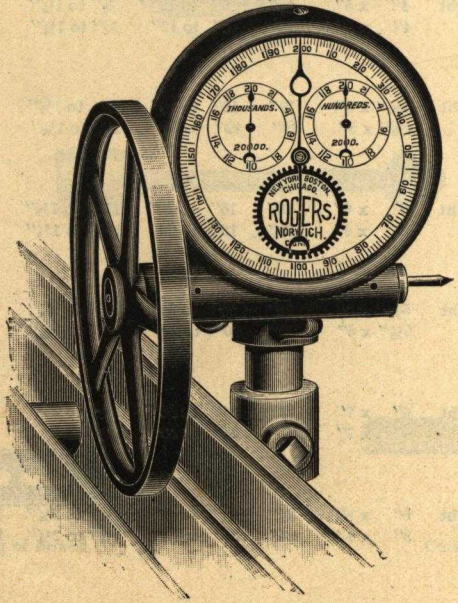


Fig. 1534 Rogers Lumber Register.

HOYT & BRO. CO.'S

KNIFE BALANCE.

These engravings represent a perfect machine for balancing knives.

To balance knives: Be sure the knives are the same thickness from end to end. Place one knife on the scale, as shown in engraving No. 1, balancing as near as you can, by moving up the sliding stop on the beam. Set up the set-screw in the stop; then by adjusting the weight on the stop, or placing weight in the hopper, get accurate balance.

Turn the knife end for end, and note the difference. File or emery off the heavy end on a bevel, the same as the back shows, leaving cutting edge full length, or file out in the slots. If there be too great a difference in the balance it will be better to drill out in the heavy end, and in the center (from edge to back) of the knife, until the two ends balance.

After balancing endwise, remove the stop, replace the hopper, and place the knives in the scale, as shown in engraving No. 2; find the lightest one in the set and dress the others to fit it, by filing from end to end, and on the back. Remember you have them balanced endwise. Do not get them out by filing off one end. It is equally important that all knives used on side heads should be kept in perfect balance.

Cylinder bolts may also be balanced on this scale. Bolts and washers on a cylinder should all be equal in weight.

Fig.		Boxed for Export Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1530	Knife Balance	40	60	4	**Sidexa**

C. B. ROGERS & CO.'S

LUMBER MEASURING REGISTER

AND SPEED INDICATOR.

This little machine tells what you are doing in the way of product; tells at a glance at what speed your machine is feeding, and instructs your operator when he is run out, and gives the number of feet.

It can be attached by a variety of methods to other makes of machines as well as to our own. Surface measure can be readily computed from the dial, when desired.

The regular pattern registers up to 20,000 feet. We also make another registering up to 200,000 feet, at a slight advance in price.

The works are inclosed in a strong case, tightly secured from dust.

By removing the register and inserting a steel center, shown in cut, an accurate speed indicator is obtained. When so used, the measuring wheel should be temporarily removed.

Fig.		Code
1534	Measuring up to 20,000 feet	**Sifga**
1535	" " " 200,000 "	**Sifhum**

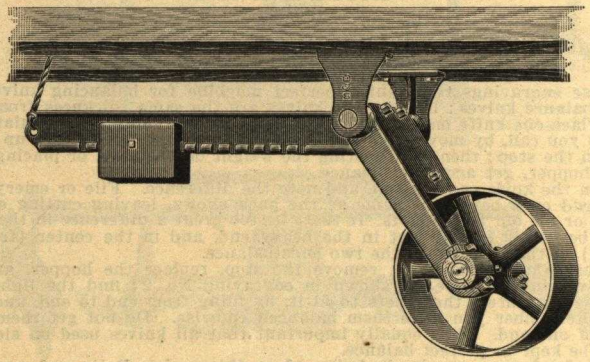


Fig. **1537** Hoyt Belt Tightener.

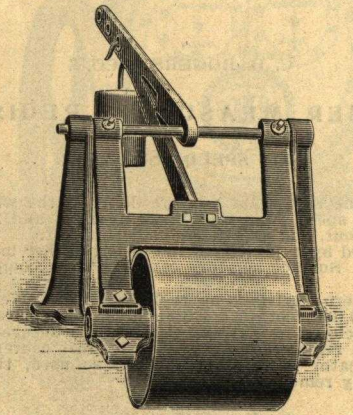


Fig. **1545** Globe Belt Tightener.

HOYT & BRO. CO.'S

BELT TIGHTENERS.

The use of a belt tightener to drive heavy wood-working machinery is without doubt the best planing mill practice, and we have designed our tightener for extra heavy service.

It is simple in construction and well built. An adjustable weight gives the proper tension to the belt and the operating cord is fastened to the end of the lever. See cut.

It may also be used by fastening the operating cord to give the proper tension to the belt and using the weight to throw pulley away from belt when cord is released.

It is built in three sizes:

Fig.		Diam. of Pulley	Weight, lbs.	Code
1537	No. 1, for belts 10″ wide and under	12″	280	Siflet
1538	No. 2, " " 11″, 12″ and 13″ wide	12″	300	Sifmosa
1539	No. 3, " " 12″, 15″ and 16″ "	12″	320	Sifnala

GLOBE BELT TIGHTENERS.

These tighteners are similar to the Hoyt in design and construction, but made in smaller sizes.

Fig.		Diam. of Pulley	Weight, lbs.	Code
1544	No. 1, for belts 4½″ wide	8½″	140	Sihoset
1545	No. 2, " " 6½″ "	10½″	150	Sikaber
1546	No. 3, " " 8½″ "	12½″	180	Siluron

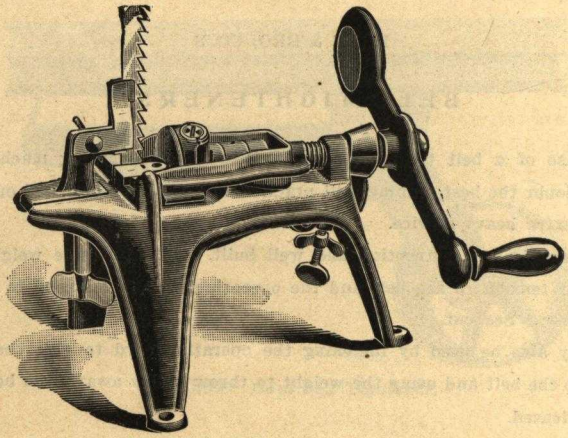


Fig. **1550** Rogers Band Saw Setter.

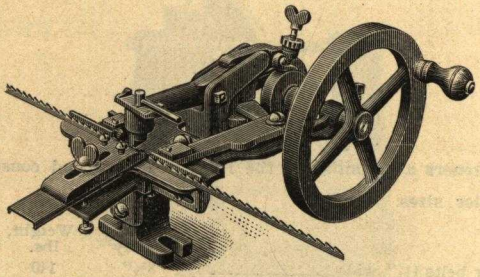


Fig. **1553** Clement Band Saw Setter.

C. B. ROGERS & CO.'S

RECIPROCAL BAND SAW SETTER.

On this machine the teeth are set by pressure. The motion being positive, all teeth are set exactly alike on both sides. As this setter sets both ways, it finishes the saw in once going round. The adjustments are simple and all changes can be quickly made. Saws up to 1" in width can be set on this machine.

This saw set is very compact, strong, simple and durable; may be used on a bench or to set the saws without removing them from the band saw wheels.

Fig.	Weight, lbs.	Boxed for Export Weight, lbs.	Cubic ft.	Code
1550	8	16	⅔	**Siquest**

F. H. CLEMENT CO.'S

BAND SAW SETTER.

This machine gives a hammer blow in such a way that the tooth stays where set, and as the blow can be easily regulated by the thumb screw at the back of the machine, it is thus adapted to heavy or light blades and to various grades of temper.

The Angle of Set can also be adjusted by screws under the table in front and thus the "kerf" increased or diminished at will.

The Blade travels in a channel formed by a clamping plate, a back gauge and a tooth guide, all of which are adjustable to various widths and thicknesses of saws.

The Feed Works are strong and positive and the dogs are of hardened steel; in case of wear there is a compensating adjustment and the parts are cheaply replaced.

The Hammer and the anvil are made of the finest tempered steel and they can be removed for grinding when worn, or replaced by duplicates. The machine is extremely simple and durable, and is well fitted in all details.

Works blades from ⅛" wide up to 1", and is adaptable to saws for any kind of work where the teeth are not coarser than ¾" apart.

Fig.	Boxed Weight,	Cubic ft.	Code
1553	12 lbs.	⅓	**Sitold**

Fig. 1557

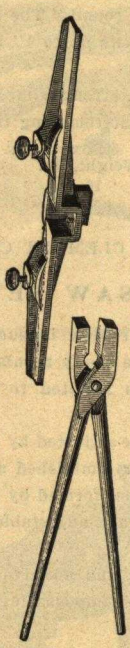


Fig. 1558

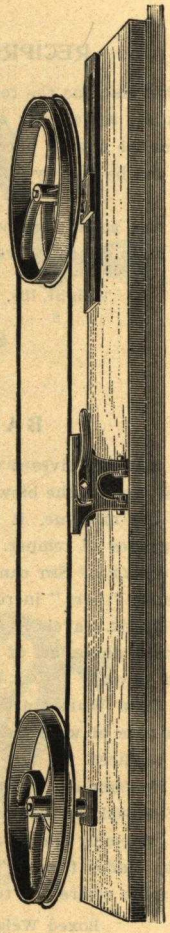


Fig. 1555-6 Filing Wheels with 10" Vise.

AMERICAN

FILING WHEELS, VISES AND SCARFING FRAME.

Of the ordinary appliances for keeping saws in order we have Filing Wheels and Studs, two sizes of Filing Vises, Brazing and Scarfing Frame with tongs.

The Filing Wheels and Studs are made plain but serviceable, and are designed to be attached to a bench, as indicated in cut. We do not furnish the plank to which they are attached. The wheels are covered with heavy canvas and the right hand one adjusts horizontally to strain the blade.

The Vises are made with jaws either 10″ or 18″ long. When an outfit is ordered we furnish the one 10″ long unless otherwise stated. There are adjustable stops in the vises so that the blade will not sink when filed. They are planed true in the jaws and will grip the blade the whole length of the vise.

The Brazing and Scarfing Frame for holding the saws when they are to be joined can be placed in a vise or screwed to a bench, whichever is the most convenient. The entire outfit is simple and all that is necessary where a small amount of work is to be done.

Fig.		Boxed for Export			
		Weight, lbs.	Weight, lbs.	Cubic ft.	Code
1555	Filing Wheels and Studs	47	65	1	Sobento
1556	10″ Filing Vise	17	25	½	Socateg
1557	18″ Filing Vise	36	55	1	Sodach
1558	Scarfing Frame and Tongs	17	30	1	Sofrina

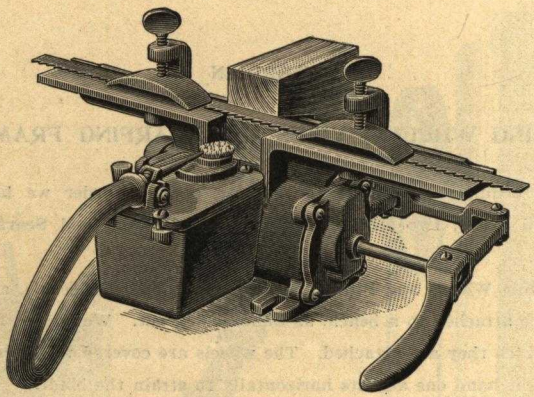


Fig. **1560** Clement Brazing Forge.

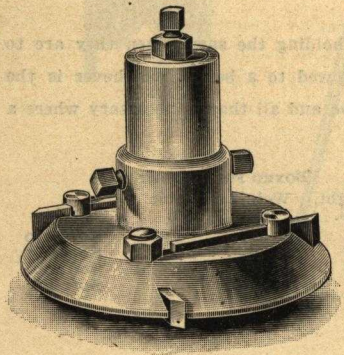


Fig. **1569**

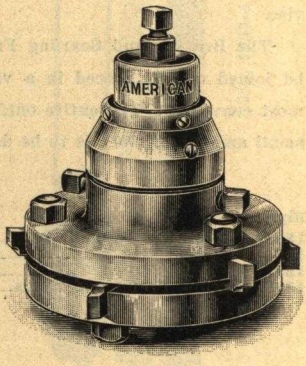


Fig. **1566**

American Cutter Heads.

F. H. CLEMENT CO.'S

BAND SAW BRAZER.

The illustration shows a new device for heating the saw with a flame and blow pipe, which overcomes the objections to the old method and is proving very satisfactory in practice.

THE SAW BLADE is beveled or "scarfed" for the lap on the table which is planed true on the face and back and suitable clamps hold it while being operated upon.

THE BLOW PIPE is supplied with air from a double-acting pump with receiving chamber, fitted with good leather valves and double-cup piston packing; the capacity of the pump is much greater than the requirements, and very little exertion is needed to get sufficient heat to braze saws 1¼" wide.

THE LAMP is attached to the machine and has a very large elliptical wick, giving a long, steady flame which becomes hot at the point where it is forced against the saw by the air blast. Kerosene is used for fuel.

THE BRAZER is made ready for use by simply clamping it, or screwing it to a bench and attaching the blast hose. We furnish, brazer complete, one piece of hose, a quantity of prepared spelter and pulverized borax, some fine tying wire and full directions for brazing with either spelter or silver solder. The time required for scarfing down the ends of the blade, adjusting it and completing the braze is from eight to fifteen minutes, dependent on the width of the blade and skill of the operator.

Fig.	Boxed Weight	Cubic ft.	Code
1560	24 lbs.	¾	**Sojetis**

AMERICAN

PATENTED EXPANSION MATCHER HEADS.

Designed especially for working hard wood at a fast feed and can be continuously operated for thirty hours before it is necessary to sharpen the cutters. They are equally efficient for working soft wood, and will run about fifty per cent. longer than on hard wood without resharpening. They are of the expansion type, having alternate bit seats in the upper and lower sections.

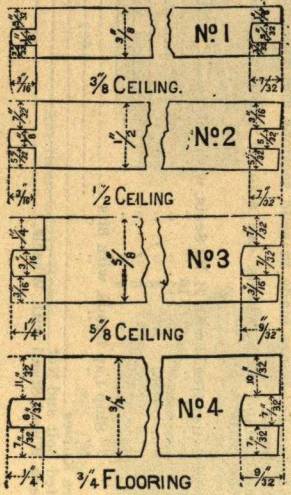
The bits or cutters are made of special high grade steel and will retain their cutting edge at a fast speed for many hours. They are so held to place in the heads that they cannot be driven back when heads are cutting. They are made in two ways: Either with the cutting edge shaped to cut the pattern, or with the cutters milled to shape, and with the latter it is only necessary to grind them on the face or cutting edge to retain the proper shape of the tongue and groove at all times.

The ship lap heads are made in solid sections and are equally efficient as the matcher heads.

An emery stand with wheels can also be furnished when required for grinding the cutters.

Fig.		Code
1562	One set Cutter Heads with 24 Bit Seats, with Bits	**Somolent**
1563	" " " " " 16 " " " " "	**Sonofet**
1564	" " " " " 12 " " " " "	**Soothing**
1565	" " " " " 8 " " " " "	**Sopix**
1566	" " " " " 6 " " " " "	**Soqualic**
1567	" " " " " 4 " " " " "	**Soraby**
1568	" " 7" Ship Lap Heads, with Bits	**Sosefo**
1569	" " 5" " " " " "	**Sotena**
	Extra Knives	**Spaddo**
	Slotted Bolt and Nut	**Spading**
1572	Emery Wheel Stand with Wheels	**Spadum**

New York and Norfolk Standard.



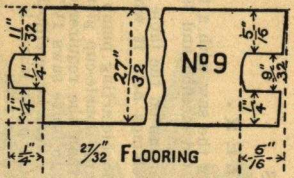
GLEN COVE

OFFICIAL GAUGE.

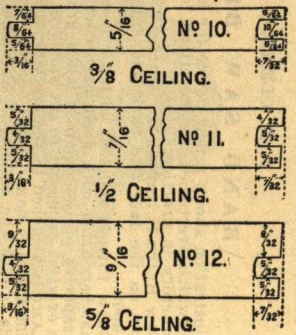
Price at Salesroom, $1.00 Net Each.

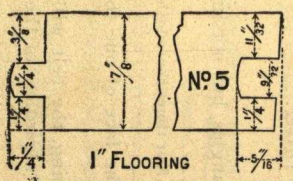
By Mail, $1.25 Net Each.

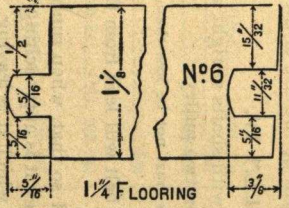
ORDER BY NUMBER, NOT BY SIZE.

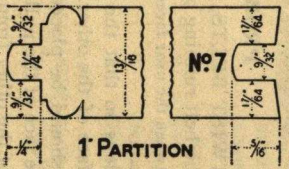


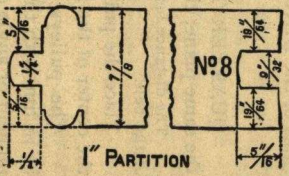
Southern Lumber Manufacturers, Association Standard.









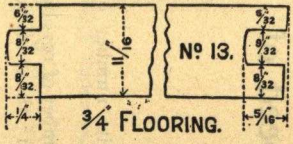


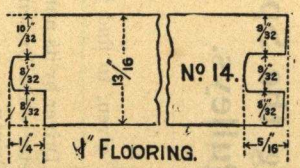
THE use of this Gauge insures perfect and uniform matching. It is important that lumber sent by different mills to the same market should be uniformly matched.

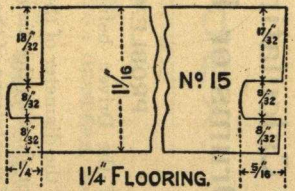
We keep a large supply of all sizes on hand at

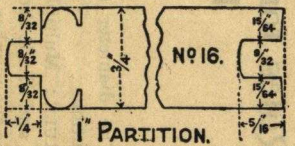
136 Liberty Street,
New York City.

Fig.		Code.
1581	No. 1 Gauge	Stabata
1582	No. 2 Gauge	Stacoma
1583	No. 3 Gauge	Stadulus
1584	No. 4 Gauge	Stafino
1585	No. 5 Gauge	Stagola
1586	No. 6 Gauge	Stahlon
1587	No. 7 Gauge	Stecatus
1588	No. 8 Gauge	Stedula
1589	No. 9 Gauge	Stefallo
1590	No. 10 Gauge	Stegum
1591	No. 11 Gauge	Stemax
1592	No. 12 Gauge	Stenno
1593	No. 13 Gauge	Steubis
1594	No. 14 Gauge	Stevite
1595	No. 15 Gauge	Stewang
1596	No. 16 Gauge	Stilasm









Rules for Calculating the Speed of Drums or Pulleys.

PROBLEM I.

The diameter of the Driven being given, to find its number of revolutions :

RULE : Multiply the diameter of the Driver by its number of revolutions, and divide the product by the diameter of the Driven ; the quotient will be the number of revolutions of the Driven.

PROBLEM II.

The diameter and revolutions of the Driver being given, to find the diameter of the Driven, that shall make any given number of revolutions in the same time :

RULE : Multiply the diameter of the Driver by its number of revolutions, and divide the product by the number of revolutions of the Driven ; the quotient will be its diameter.

PROBLEM III.

To ascertain the size of the Driver :

RULE : Multiply the diameter of the Driven by the number of revolutions you wish it to make, and divide the product by the revolutions of the Driver ; the quotient will be the size of the Driver.

PROBLEM IV.

QUARTER TWIST BELTS, with shafts at right angles, but not in the same plane, the belt running on two pulleys.

The distance between the near faces must not be less than four times the width of the belt.

Place the pulleys so that the belt will lead from the face of one to the center of the face of the other.

The pulleys should be placed so that, when running, the belt will be in line with the face of the pulley it is approaching, regardless of the tangent or angle of the other from which it is leaving.

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